TECHNOLOGY DEPT.

November 15, 1957

Telephone Engineer

AND MANAGEMENT

THE NATIONAL TELEPHONE MAGAZINE

PUBLIC LIBRARY
NOV 22 1957
DETROIT

- **TRAINING OF AN ENGINEER**
  By F. C. Mirgain
- **SERVICE IN CDO's**
  By C. A. Martin
- **PR IS PERSONALITY**
  By A. J. Barran
- **KEEP EVERYBODY HAPPY**
  By Ernest W. Fair
- **INTEREST IN SAFETY**
  By Richard Allen
- **TE&M HANDBOOK DATA**
  "Squeez Taps"
- **RURAL DISTRIBUTION CABLE**
  By R. G. Tungate
- **THE TE&M EDITORIAL**
  "Decision From Iowa"

1 out of 13

FLORIDA DIVISION
IS ONE OUT OF THIRTEEN DIVISIONS

FLORIDA DIVISION BUILDING

SALES DEPARTMENT

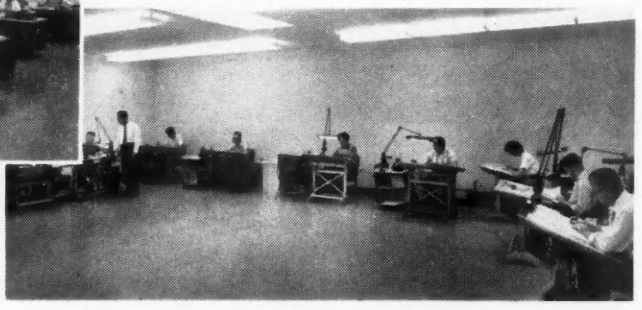
The Florida Division is one out of 13 Divisions which serve more than 275 Bell and Independent Telephone Companies in 29 states and Canada for L. M. Berry and Company.

Each Division is comprised of experienced sales, art, and clerical personnel who are highly trained in the field of Directory Advertising. These specialists have been able to produce and maintain maximum directory results in all directories, as well as further strengthening the best public relations with subscribers.

You, too, should have L. M. Berry and Company handle the complete planning and selling of your Directory Advertising.

CLERICAL DEPARTMENT

ART DEPARTMENT



Call or write today!

Telephone Directory Advertising Exclusively

SINCE 1910

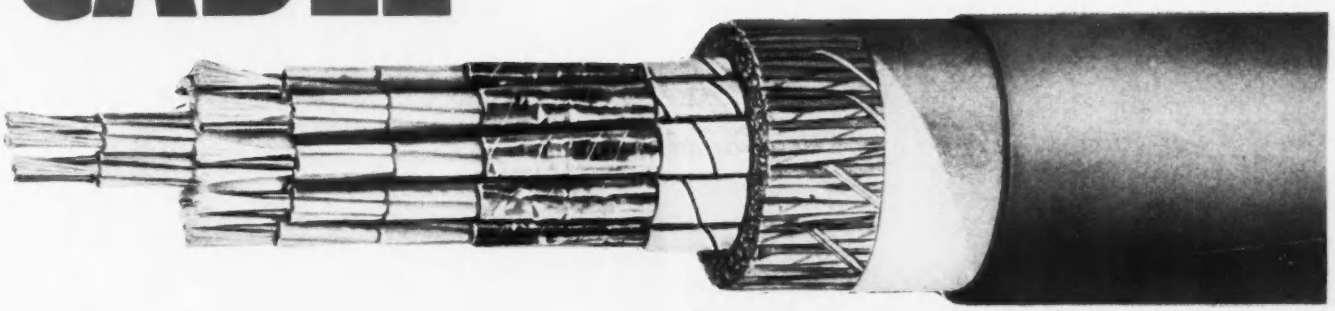
L. M. BERRY AND COMPANY

Hulman Building *BAldwin 4-7421 • Dayton 2, Ohio*

NOW FROM GENERAL CABLE

UNIVERSAL FREQUENCY-RANGE CABLE

TO COVER PRESENT DAY COMMUNICATION SPECTRUM



VIDEO PAIR

Balanced broad band transmission circuits* for video and carrier—closed circuit TV—links to microwave stations —remote TV pickup—digital data transmission.

*Low signal to noise ratio
*Low attenuation
*Low shield resistance
*Low noise and cross talk levels
*Small phase distortion
*Low echo suppression

Distributed through:

AUTOMATIC ELECTRIC SALES CORPORATION
Chicago, Illinois

LEICH SALES CORPORATION
Chicago, Illinois

VOICE AND CARRIER

Telephone circuits.

SHEATH

Aluminum Lead
Stalpeth Alpeth
for aerial or duct installation

Also available with armor for direct earth burial or submarine use.

GENERAL CABLE CORPORATION,
420 Lexington Avenue, New York 17, N.Y.
Offices and Distributing Centers Coast-to-Coast

for quality and service ... **specify GENERAL CABLE**

Telephone installations show...

How Polyethylene performs in the field

WASHINGTON – Polyethylene-covered cable was first installed in this mountainous region of the Pacific Northwest in 1950. Field experience showed that it was adaptable to any method of hanging and required no special equipment. Installation could be made on existing pole arms without increasing crossarms, pole height, or tree trimming.

The line has withstood extremely heavy snow and ice loading in certain mountain and valley sections. There has been no deterioration despite temperatures 40 deg. below zero. During the summer months, temperatures up to 115 deg. and exposure to sunlight have had no discernible effect.

NEW YORK – Recently, 33,000 feet of cable and 75,000 feet of wire, both insulated with polyethylene, were put into service in upstate New York. Although an unusually large number of thunderstorms were experienced during the year, no lightning damage was reported on these lines. To date, rain conditions have had no effect.

Much of the cable was strung on existing poles, but in the construction of new lines it was found practical to use ⅓ fewer poles. The need for crossarms and tree trimming was also reduced. As a result, maintenance costs in rural areas have stayed low.

YEARS of service under a variety of terrain and climatic conditions are represented by these field reports. They describe the performance of BAKELITE Brand Polyethylene used as jacketing and insulation for wire and cable.

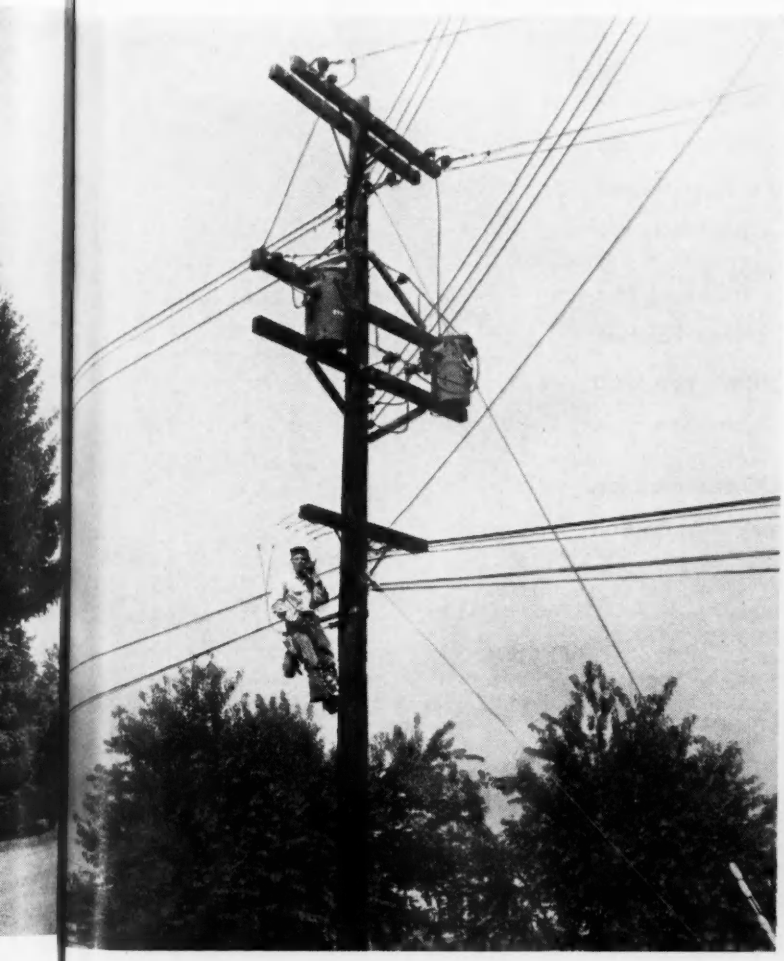
In every instance, BAKELITE Polyethylene has brought improvements over conventional materials. Its superior moisture resistance has set a new standard in trouble-free operation. Its extremely light weight has saved time and expense in installation. Its toughness has made cable handling easier. Its excellent dielectric strength has far exceeded the needs of telephone service.

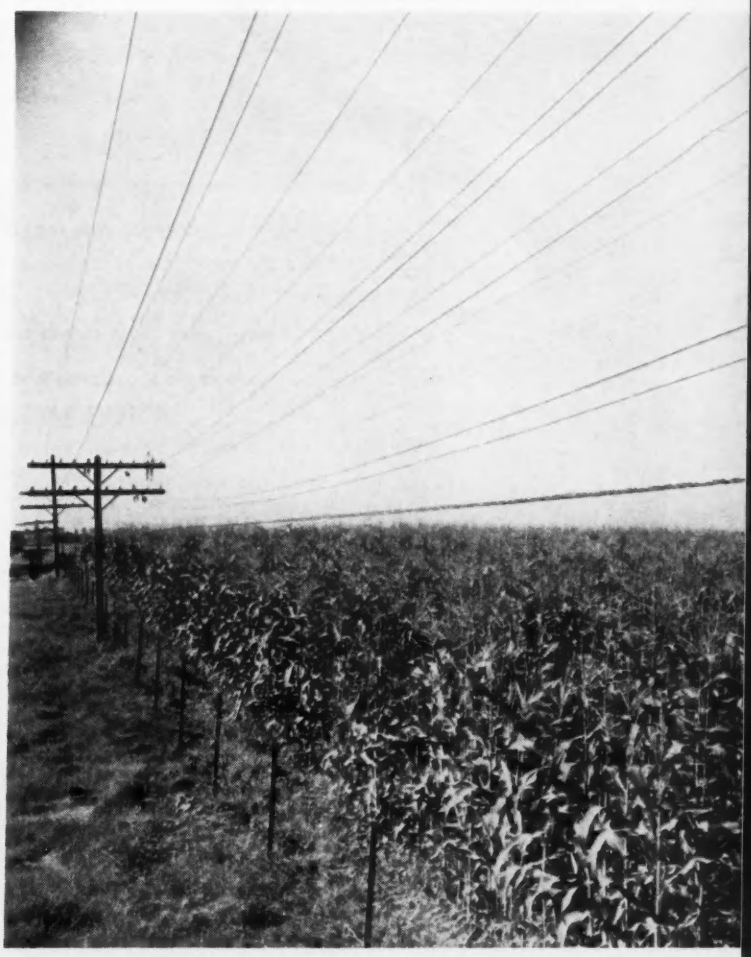
The growing acceptance of this material is shown by its use in coaxial cable and signal control cable as well as telephone line wire. BAKELITE Polyethylene satisfies REA requirements for plastic-covered telephone wire, IPCEA specifications for power cable, ASA standards for weatherproof wire, ASTM D1238-52T Type II, dielectric materials, and IMSA specifications for fire alarm and signal control cable. For more information, write Dept. AT-183

BAKELITE
BRAND
POLYETHYLENE

UNION CARBIDE

BAKELITE COMPANY, *Division of Union Carbide Corporation,* 30 East 42nd Street, New York 17, N.Y.
In Canada: Bakelite Company, Division of Union Carbide Canada Limited, Belleville, Ontario.
The terms BAKELITE and UNION CARBIDE are registered trade-marks of UCC.





PENNSYLVANIA – Polyethylene has stood up under exhaustive indoor and outdoor tests carried out in western Pennsylvania during the past year. It has effected such savings in installation costs that it will be a major item in purchases for the coming year.

With respect to service life and safety, polyethylene is considered an outstanding improvement over other materials. It has shown unusual resistance to weather and abrasion. Its extremely light weight permits a smaller cable construction that is easier to handle, making for faster installations. It also permits wider pole spans, with a consequent saving in poles and maintenance.

ILLINOIS – Cable with polyethylene insulation and vinyl plastic jacketing has been used in Central Illinois since 1953. Its light weight has resulted in a 5-ft. reduction in pole height, elimination of guy wires and messengers, faster handling of cable, and wider spacing of poles.

Excellent results are reported with spans of 400 feet, compared to the 240-ft. spans needed with conventional cable. The light weight and high strength of the cable assembly are particularly important in winter, lessening the damage from ice and sleet loading. Because of its high dielectric strength, polyethylene now replaces fabric on circuit wiring.

NEW, SHORT *Koiled Kords**

CUT HANDSET LOSSES . . . on Coin Collector Telephones

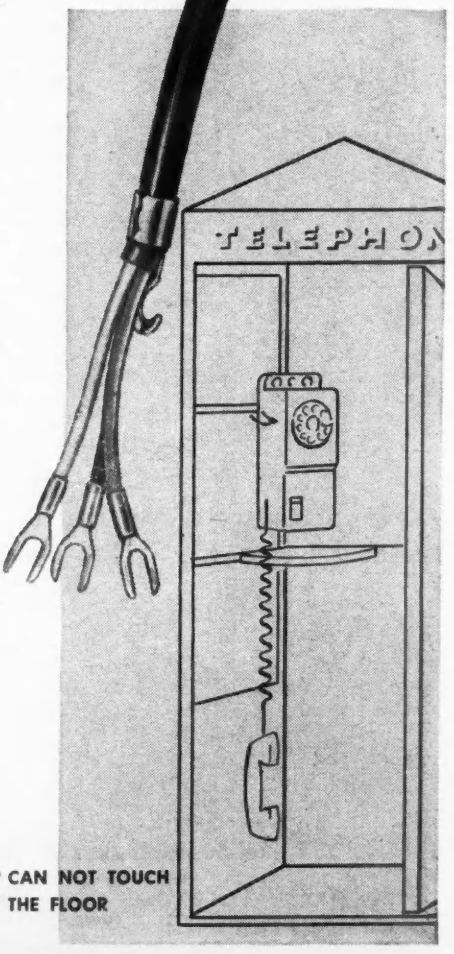
KOILED KORD ILLUSTRATED IS ACTUAL SIZE

These new short KOILED KORDS retractile cords allow sufficient length for use in telephone booths but are short enough to prevent the handset from hitting the floor if dropped.

Figure your past losses from broken handsets and you'll see how much these new short KOILED KORDS can save you.

These new short KOILED KORDS are available for Automatic Electric, Stromberg-Carlson and Western Electric handsets.

KOILED KORDS, the original retractile cords, are the result of 17 years of research, development and use.



CAN NOT TOUCH THE FLOOR

© 1957

*KOILED KORDS is a trade mark of KOILED KORDS, INC.

Koiled Kords INCORPORATED, BOX K, NEW HAVEN 14, CONN.

ABOUT THIS ISSUE

SOME MONTHS ago we asked *F. C. Mirgain*, Dean, School of Engineering, North Dakota State College, Fargo, N. D., a few pertinent questions. He replied with an article (*see page* 39) answering a few of the criticisms being directed at the U. S. educational system and proving the U. S. philosophy of education "has been, and is, to educate as many citizens as possible, consistant with our ability to vote funds for education. . . ."

OUR Technical Editor, *John S. Reed*, has prepared another TE&M Operating Manual for your reference files. This new manual (*see page* 62) presents the latest information on "Open-Wire Terminations." This is the 4th *TE&M Operating Manual*. If you missed the first three, drop us a line . . . we may have copies.

THE PUBLIC Relations Director of General Tel. Co. of Calif., *Alfred J. Barran*, firmly believes "companies, like people develop personalities." In an article starting on *page* 43, Mr. Barran describes the ingredients necessary for building a pleasing personality for a telephone company and proves the telephone company employe is an integral part of the company's public relations program.

AUTHOR *Ernest W. Fair* takes a long look at the job of keeping employes happy. In an article starting on *page* 48, he proves that many personnel problems can be taken care of before they start by foresighted handling of employes.

FOLLOWING through on hundreds of requests we have reprinted all of the articles which appeared in the October 1 issue as a booklet. We titled the booklet "Past, Present, Future" and you may order copies now. The price is $1.50. . . . Also we have two other booklets: (1) "Profits and Service Through Better Management," by James L. Morrison — all eight chapters as they appeared in Telephone Engineer & Management; and (2) "A Guide to Effective Traffic Management Methods." by Ruth E. Richards. Each book sells for $1.50. . . . Let us know how many copies you want.

Editorial & Business Staff

Ray W. Smith, *Editor* — Roy F. Smith, *Advertising Director*
Donald C. Sorensen, *Advtg. Mgr.* — John G. Reynolds, *Managing Editor*
John S. Reed, *Technical Editor* — Richard A. Reynolds, *Production Mgr.*,
Emily Budde, *Editorial Assistant* — Betsy Taylor, *Advertising Assistant*,
Betty Schroeder, *Office Mgr.* — Pat Lawhorn, *Circulation Mgr.*
Roland Davies and Fred Hencke, *Washington Bureau*

Advertising Representatives

WEST COAST: Keith H. Evans & Associates,
3723 Wilshire Blvd., Los Angeles 5, Calif.
Telephone: DUnkirk 2-8981,
593 Market St., San Francisco 5, Calif.
Telephone: YUkon 2-4280.

SOUTHWEST: Ed Whetzle,
923 Cardova Ave., Dallas 23, Texas.

Telephone Engineer

AND MANAGEMENT

THE NATIONAL TELEPHONE MAGAZINE

VOL. 61 No. 22 NOV. 15, 1957

ARTICLES

Editorial — "Decision From Iowa" 33
The Training Of An Engineer ..... F. C. Mirgain 39
Service In Community Dial Offices ..... C. A. Martin 41
Public Relations Is Personality ..... A. J. Barran 43
How To Keep Everybody Happy ..... Ernest W. Fair 48
One-Man Aerial Tent ..... E. L. Alford 54
Holding Employe Interest In Safety ..... Dick Allen 55
"I'll Be There" ..... as told to George Forbes 62
Report From England — "Rural Distribution Cable" ..... R. G. Tungate 70
Hands In The Dark ..... Phil Glanzer 76

FEATURES

Book Review — "Small Business Problems And Prospects" 46
Book Review — "Techniques of Plant Maintenance" 73
Telephone Oddities ..... Tom Higgins, Jr. 73
Free Literature 78
Arkansas Convention Report 80
Industry News Briefs 83
New Methods and New Products 88
Suppliers' News Briefs 92
The Back of The Book ..... John G. Reynolds 112

DEPARTMENTS

Index To Advertisers & Their Agencies 111
Buyers' Guide 91
Classified Advertising 100
Professional Services 102

FRONT COVER

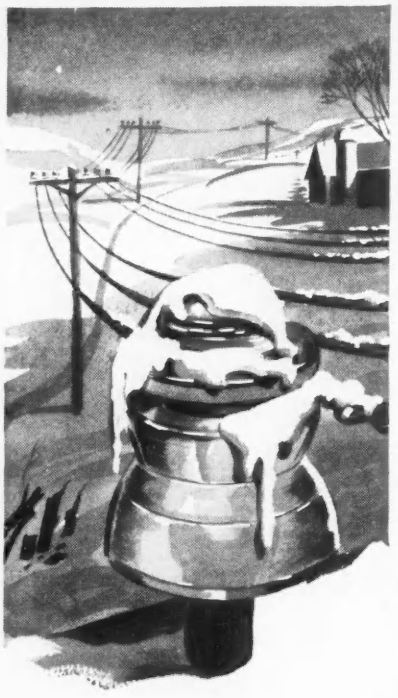
The young lady shown on our front cover serves subscribers of Telephone Services, Inc., Lima, Ohio. Known as "Miss Telephone Service," she uses a small Italian Isetta car for transportation as she calls on subscribers to check their service, make necessary minor repairs and adjustments and assist in correcting service problems.

Volume 61, No. 22. Published on the 1st and 15th of each month by TELEPHONE ENGINEER PUBLISHING CORP. Office of Publication, Rochelle, Ill. Executive and Editorial Office, 7720 Sheridan Road, Chicago 26, Ill. Telephone — Rogers Park 4-3040. Subscriptions: U. S. and Possessions, $4.00 per year; Canada $4.50; in all other countries, $6.50. Single copies, U.S.A., 50 cents. Entered as Second Class matter at the post office at Rochelle, Ill. under the act of March 3, 1879.

Copyright 1957 by Telephone Engineer Publishing Corp.

SUBSCRIPTIONS: Send subscription correspondence and change of address to Subscription Manager, TELEPHONE ENGINEER & MANAGEMENT, 7720 N. Sheridan Road, Chicago 26, Ill. Subscribers should notify publisher promptly of any change of address, giving old as well as new address, and including postal zone number, if any. If possible, enclose an address label from a recent issue of the magazine. Please allow one month for change to become effective.

POSTMASTER . . . Please send form 3579 to TELEPHONE ENGINEER & MANAGEMENT, 7720 N. Sheridan Rd., Chicago 26, Ill.



Strong!

This Armstrong Glass Insulator (Model #1) with double petticoat has a long leakage path for use on long-distance lines. The bottom shelf of its square groove is reinforced to support heavy ice loads.

All Armstrong Insulators are designed and constructed for extra strength. They're made of rugged industrial glass capable of withstanding punishing line strains and severe thermal shock. For full details, write Armstrong Cork Company, Glass and Closure Division, 295 Fifth Avenue, New York 16, N. Y.

Watch Armstrong Circle Theatre every other Tuesday evening on NBC-TV

Armstrong
GLASS INSULATORS
for communications . . . for power

COMING CONVENTIONS

SOUTH DAKOTA Telephone Association, Cataract Hotel, Sioux Falls, S. D., Nov. 21, 22, 1957.

OKLAHOMA Telephone Association, Huckins Hotel, Oklahoma City, Nov. 21-22.

FLORIDA Telephone Association, The Balmoral, Bal Harbour, Miami Beach. Dec. 2-3.

LOUISIANA Telephone Association, Jung Hotel, New Orleans, Feb. 12-13, 1958.

MINNESOTA Telephone Association, St. Paul Hotel, St. Paul, Feb. 17-19, 1958.

TEXAS Telephone Association, Baker Hotel, Dallas, March 3-4, 1958.

KENTUCKY Telephone Association, Phoenix Hotel, Lexington, March 4, 1958.

IOWA Independent Telephone Association, Hotel Fort Des Moines, Des Moines, April 8-9, 1958.

OHIO Independent Telephone Association, Deshler Hilton Hotel, Columbus, April 14-16, 1958.

NEBRASKA Telephone Association, Paxton Hotel, Omaha, April 22-23, 1958.

INDIANA Telephone Association, Claypool Hotel, Indianapolis, May 7-8, 1958.

WISCONSIN State Telephone Association, Hotel and location to be announced. May 14-15, 1958.

ILLINOIS Telephone Association, Hotel Pere Marquette, Peoria, May 21-22, 1958.

MISSOURI-KANSAS Telephone Association, Town House, Kansas City, Kans., May 26-27, 1958.

PENNSYLVANIA Independent Telephone Association, Bedford Springs Hotel, Bedford, May 26-28, 1958.

CALIFORNIA Independent Telephone Association, Sheraton-Palace Hotel, San Francisco, June 4, 5, 6, 1958.

NEW YORK Telephone Association, Scaroon Manor, Schroon Lake, June 16-18, 1958.

"The Group Idea"

THE GROUP IDEA IS SIMPLE. It is based on the premise that the collective intelligence of a group of men is greater than the intelligence of any one of the individuals; that unity of purpose and unity of action will carry an industry or a community farther in its fight for prosperity than can be done by many times the effort expended at haphazard by individuals.

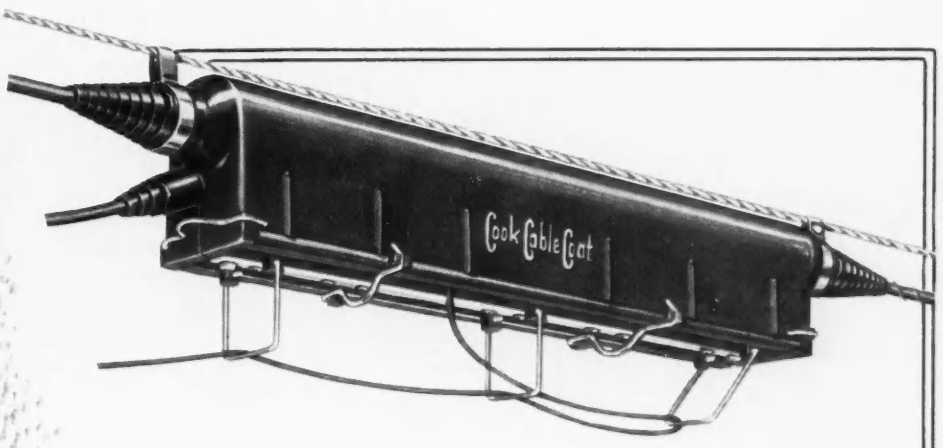
This development of group activity, which has come into fine flower in this generation, is the result of a long and painful progress.—MERLE THORPE

As exclusive as an

ALL IN ONE in a SABLE COAT

Cook now furnishes

ALL IN ONE in a CABLE COAT



with:

1. Splice maker
2. Cable Taps
3. Unitized subscriber line blocks
4. Optional protection
5. Test points
6. Wye splice nozzle

"All in one" messenger mounted

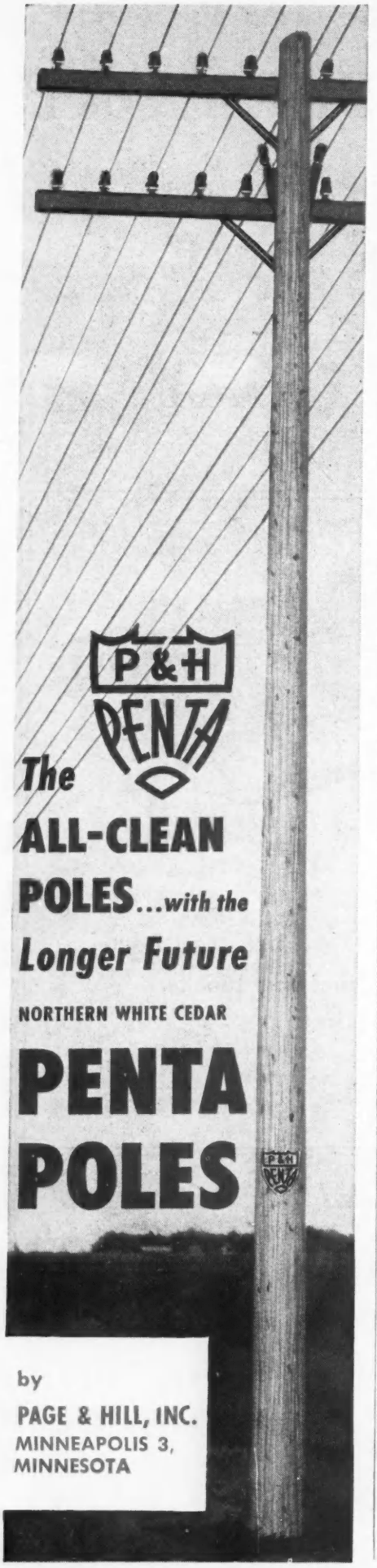
Pole Cable Terminal

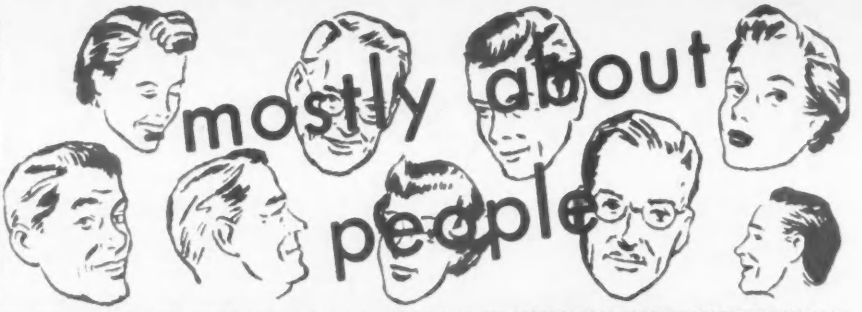
DESIGNED FOR INDEPENDENT TELEPHONE INSTALLATION

See Your Telephone Equipment Supply House

COOK ELECTRIC Company
Since 1897

2700 SOUTHPORT AVENUE CHICAGO 14, ILLINOIS





ACROSS THE EDITOR'S DESK

D. J. "Cap" White

FRIENDS of *D. J. (Cap) White*, president of the Everstick Anchor Co., Fairfield, Iowa, will be unhappy to know he is hospitalized at Jefferson County Hospital in Fairfield. Cap attended the USITA convention in Chicago last month and while there had a slight heart ailment. On his return to Iowa he was placed in the hospital. Cap is a real old timer in telephone ranks and we feel sure he would like to hear from his many friends at the hospital address.

P. M. Ferguson, Sr.

PETER M. FERGUSON, SR., that grand gentleman of the Minnesota telephone industry, was honored by directors of the National Citizens Bank, Mankato, Minn. on the occasion of his 50th Anniversary with the telephone company. The dinner was held at the Burton Hotel, Mankato, in early October before Pete left for the convention in Chicago. The Mankato papers published a full report with a fine group picture.

50th Anniversary

FIFTIETH Anniversary was also the theme of an announcement sent out by the Weavers of Collinsville, Ala. last month. *M. G. Weaver*, president of the People's Telephone Co., Inc. and his son *Jack G. Weaver*, vice president and asst. general manager form the team that is carrying on the work of *Walter T. Weaver* who purchased the People's company around the turn of the century.

"Thanks To You"

MAY WE THANK several of our readers who wrote us on the appearance and contents of the two Convention Numbers published in October. We are going to answer every letter so if our reply is late do not be upset. Too, we are proud of the *Resolution* passed by the Board of Directors of the United States Independent Telephone Association at its October meeting in Chicago congratulating the telephone trade press and our Pre-Convention Number on appearance and content.

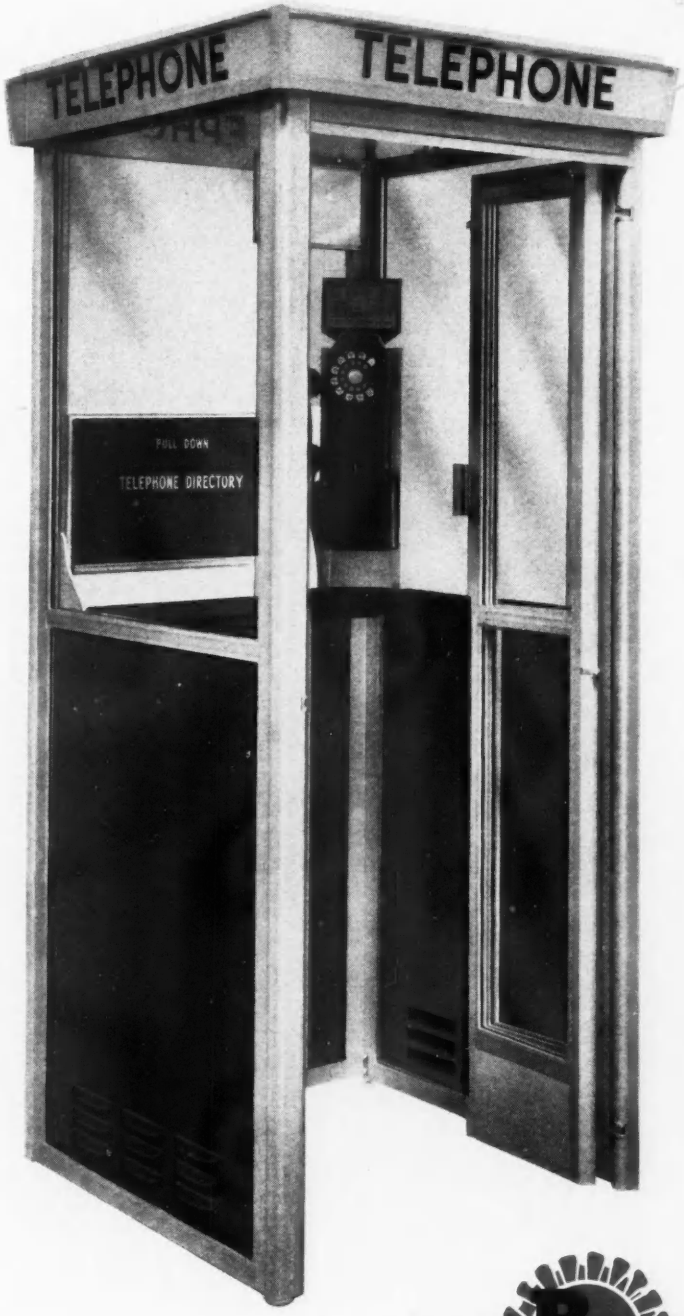
"Virginia Follows Through"

THANKS TO Walter G. Robertson, president of the Virginia Independent Telephone Association, we were invited to the recent convention at Roanoke, Va. for an unusual reason. Seems as if an editorial in our March 1, 1956 issue titled "*Time To Give The Schools a Hand*" got Virginians to thinking. They tell us the result was an invitation to the senior students of Virginia Military Institute, Virginia Polytechnic Institute and the University of Virginia to attend a pre-convention visit to the exhibits shown by the manufacturing members of the association.

The manufacturers all co-operated and had their exhibits set up by noon of the day before convention sessions were to begin. Their representatives talked to small groups of the E. E. seniors throughout the afternoon and the 91 seniors were able to make a complete round of all exhibits.

Getting these youngsters interested in the telephone business and telephone equipment might be one of the answers many Independents are now facing when they wish to attract well educated young blood to their organizations. This effort by the wide-awake Virginians could well be copied by their contemporaries in the other state associations.

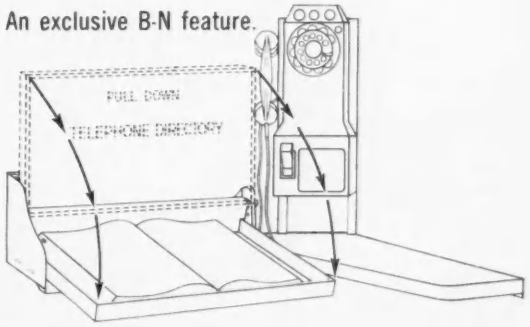
STILL the BEST everywhere



The New B-N "400"

Three inches wider and three inches deeper, the new booth includes all the previous "best" features **plus the best new booth idea in years:** a hinged, pull-down directory shelf which replaces the universal but extremely awkward chain hanger.

An exclusive B-N feature.



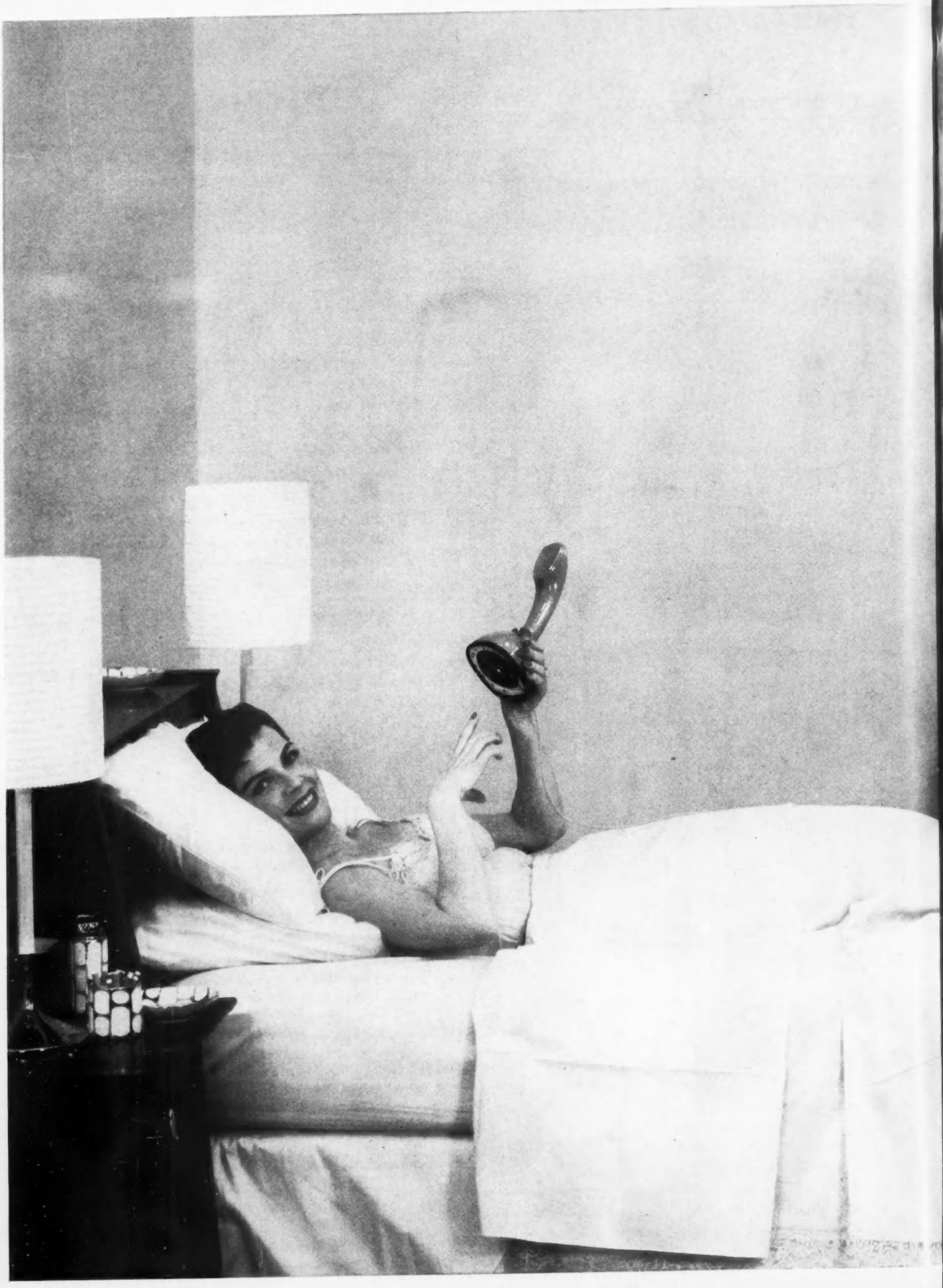
the B-N booth is best on all these counts

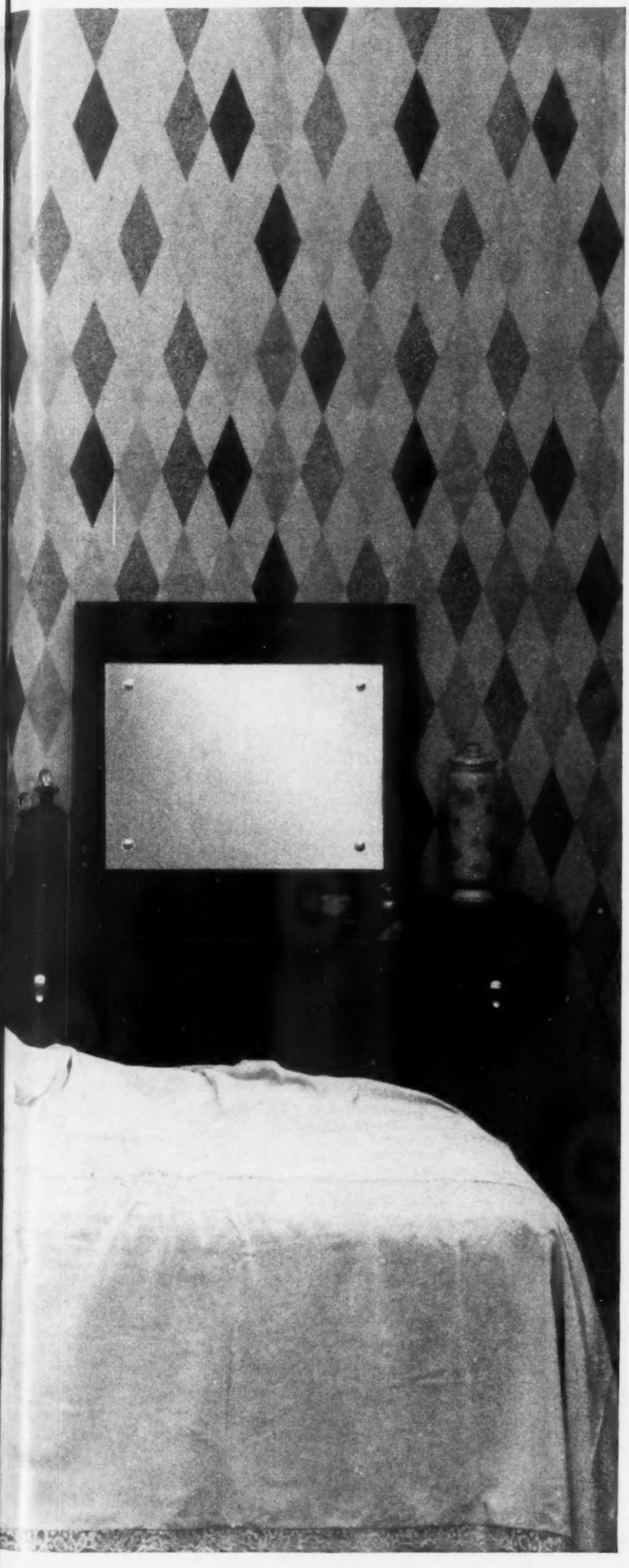
- ★★ PULL-DOWN DIRECTORY
- ★ ATTRACTIVE APPEARANCE
- ★ EASE OF ASSEMBLY
- ★ EASE OF MAINTENANCE
- ★ RESISTANCE TO RUST, STAIN, ODOR
- ★ LIGHTNESS OF WEIGHT
- ★ PROVEN DURABILITY
- ★ VERSATILE PANEL ARRANGEMENT

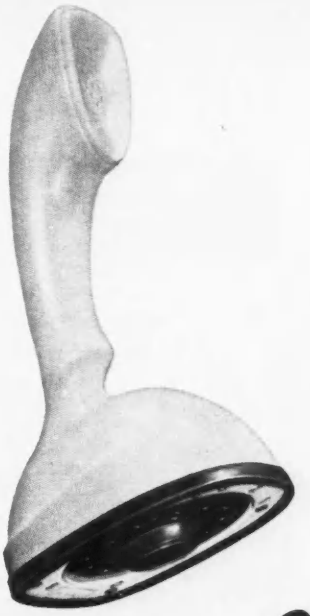
the B-N Booth

For full particulars, consult your distributor or write direct for folder... Benner-Nawman, Inc.
3421 Hollis Street • Oakland 8, California

a B-N booth is a busy booth!







Ericofon®

THE BEDSIDE PHONE THAT SELLS BEDROOM EXTENSIONS

Extension installations spell increased revenue —the Ericofon sells extension installations because it is so perfectly functional, especially as a bedside phone! There's no twisting, turning, stretching or reaching with the Ericofon!

The Ericofon comes to you—the dial comes to you!

The Ericofon takes up so little space on a bedside table!

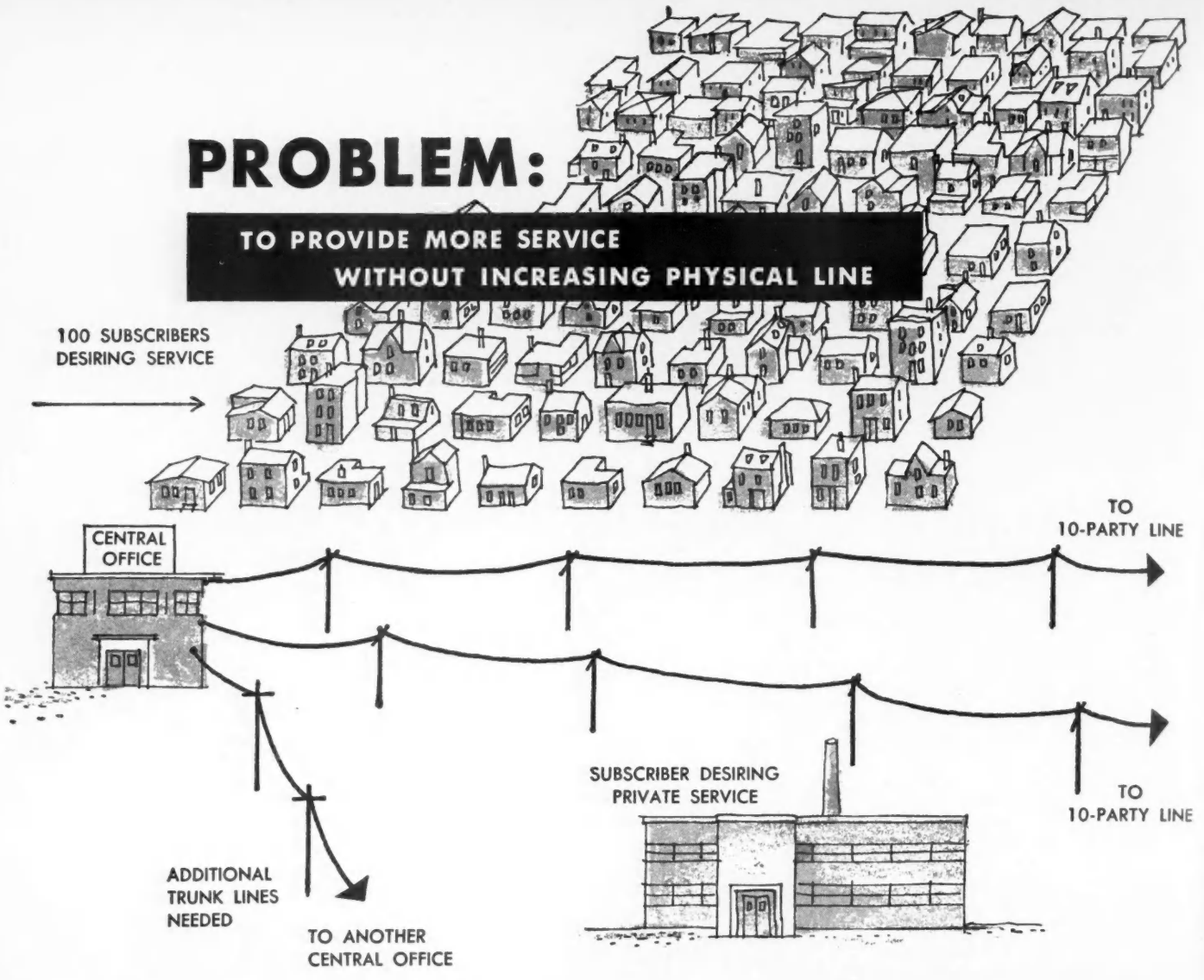
Subscribers *want* the Ericofon. Hundreds of thousands of requests have been made for this truly modern telephone.

You can order Ericofons from stock in any quantity, any of the six colors today from—

NORTH ELECTRIC COMPANY
655 SOUTH MARKET STREET • GALION, OHIO

PROBLEM:

TO PROVIDE MORE SERVICE WITHOUT INCREASING PHYSICAL LINE



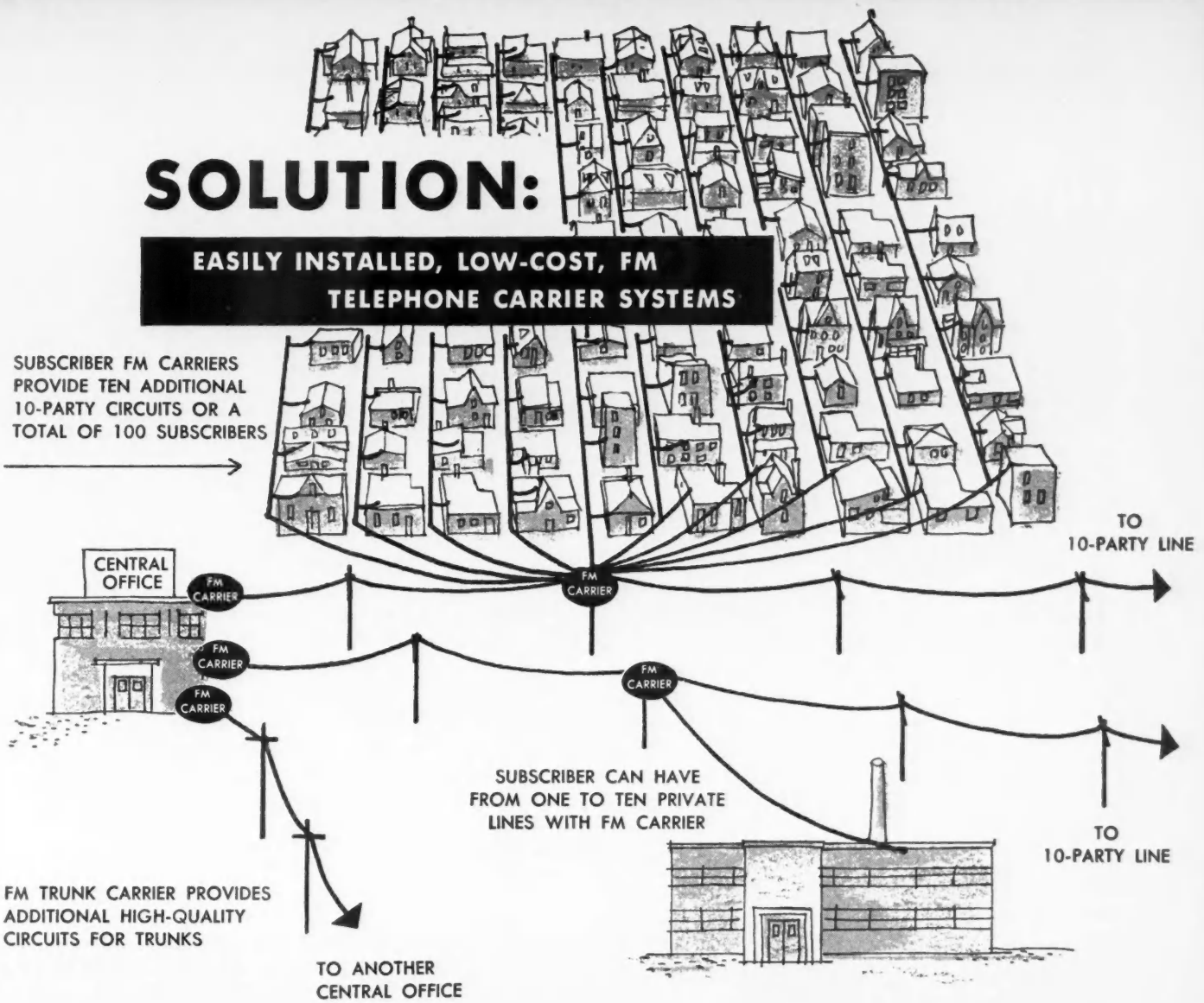
In many cases, there is no need for costly increases of your physical lines. Now you can increase subscriber satisfaction and add new revenue to your existing facilities with this remarkable Frequency Modulation telephone carrier. Its superior quality has been proved by five years of field testing and it is now being extensively used by both large and small telephone operating companies.

FM CARRIER FACTS

1. **More channels . . . 10 channels per circuit . . . 20 channels per pole lead . . . will not interfere with most standard AM carriers on the same circuit.**
2. **Makes installation easy, as little as 8 man-hours.**
3. **Easy servicing . . . interchangeable parts, plug-in units for simple maintenance.**
4. **Accommodates all types of signaling, including 10-party full selective divided or bridged ringing, code ringing, superimposed ringing . . . E & M dial and ringdown signaling, too!**
5. **Gives you trunk service, too . . . ideally suited for additional economical toll or EAS trunks.**

SOLUTION:

EASILY INSTALLED, LOW-COST, FM TELEPHONE CARRIER SYSTEMS


SUBSCRIBER FM CARRIERS PROVIDE TEN ADDITIONAL 10-PARTY CIRCUITS OR A TOTAL OF 100 SUBSCRIBERS
CENTRAL OFFICE
FM CARRIER
FM CARRIER
FM CARRIER
FM CARRIER
FM CARRIER
TO 10-PARTY LINE
SUBSCRIBER CAN HAVE FROM ONE TO TEN PRIVATE LINES WITH FM CARRIER
TO 10-PARTY LINE
FM TRUNK CARRIER PROVIDES ADDITIONAL HIGH-QUALITY CIRCUITS FOR TRUNKS
TO ANOTHER CENTRAL OFFICE

KELLOGG

A DIVISION OF I T & T

KELLOGG SWITCHBOARD & SUPPLY COMPANY

A Division of International Telephone and Telegraph Corporation

6650 S. Cicero Ave., Chicago 38, Ill.

Phone: POrtsmouth 7-6900

KELLOGG Branch Warehouses and Offices:

5924 S. Pulaski Rd.
Chicago 29, Illinois
REliance 5-7740

4501 Truman Road
Kansas City 1, Missouri
Humboldt 7085

6100 Excelsior Blvd.
Minneapolis 16, Minn.
WEst 9-6715-16

165 Prospect Street
Passaic, New Jersey
PResCott 9-3610

1515 Turtle Creek Blvd.
Dallas 7, Texas
Riverside 7-5191

23 Broderick Road
Burlingame, California
OXford 7-5780

1555 West Fourth Street
Mansfield, Ohio
LAfayette 4-6511

1594 Southland Circle, N.W.
Atlanta, Georgia
Sycamore 4-2441

Export Distributor:
International Standard Electric Corp.
50 Church Street
New York 7, New York

Electronic Products Dept.
Kellogg Switchboard & Supply Co.
6650 S. Cicero Ave.
Chicago 38, Illinois

Dear Sirs:

Please send immediately to my attention your FM Carrier Systems bulletin.

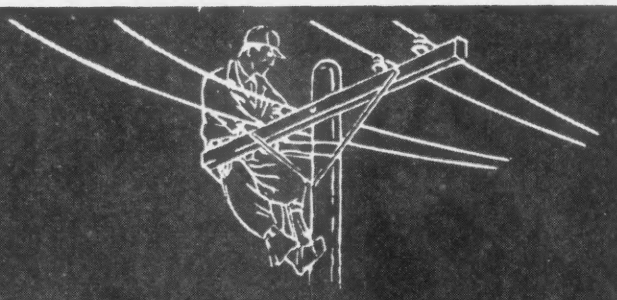
Signature_____

Firm_____

Address_____

City_____ Zone____ State_____

INDUSTRY NEWSLETTER



AT&T Sells $250 Million Issue Of Debentures at 4.94% Cost

AMERICAN Tel. & Tel. Co. accepted a 4.94 percent borrowing cost to sell its $250 million block of 26-year debentures last month and marked borrowing as costliest by Bell System's parent on its securities since early 1930, when it sold $150 million of 35-year 5 percent convertible debentures at 5.22 percent. Rate also is significantly higher than 4.34 percent AT&T is paying for the $250 million it raised March 26 through sale of 28-year 4⅜ percent debentures.

Morgan Stanley & Co. and associates bought new issue with a big of 100.92999 for 5 percent coupon. Second in bidding was a group led by First Boston Corp. & Halsey, Stuart & Co., Inc., which offered 100.42 for securties as 5s. Morgan Stanley released debentures for formal distribution at 101.461, to yield approximately 4.90 per cent to maturity on Nov. 1, 1983.

The debentures — ranked as A1 plus by one investment rating agency & AA by another — will be nonrefundable during first five years. Thereafter they will be redeemable at AT&T's option at prices ranging from 106.461 down to par.

October transaction marked 4th time in little over three years that AT&T has sold at public bidding issue for $250 million. These required net interest costs as follows: 3.15 percent on Sept. 21, 1954, 3.76 percent on July 10, 1956, 4.34 percent on Mar. 26, 1957, and 4.94 percent Oct. 29, 1957.

Florida Commission Orders Southeastern Tel. To Make Service Improvements

CONCLUDING that inadequate service is being rendered by Southeastern Tel. Co., through four of its exchanges & a toll center, Florida Railroad & Public Utilities Commission has directed company to make series of improvements & set time limits for placing of purchase orders for equipment to make some improvements.

Commission ordered company to order equipment to provide intercept service at four exchanges, & to place orders for equipment to increase existing number of extended area circuits to minimum number specified. It also directed filing of series of detailed reports covering service problems outlined in order.

In its order, issued Oct. 23, commission said it had received numerous service complaints from Southeastern Tel. Co. subscribers. Commission order particularly concentrated on absence of intercept service, & what it described as inadequate number of extended area service circuits between exchanges to handle traffic volumes.

New General Telephone Subsidiary To Give Financial Aid To Customers

NEW SUBSIDIARY to provide "financial assistance" to customers of its manufacturing subsidiaries has been established by General Tel. Corp. Details of type of financing to be made available by new subsidiary, which will be known as General Telephone Credit Co., to customers of Automatic Electric Co., Leich Electric Co., and Lenkurt Electric Co., will be announced later.

Heading up new company as president is Richard F. Hardy, who for nearly 20 years was associated with public utilities department of Chase Manhattan Bank, specializing in loans to telephone industry. More recently, Mr. Hardy was affiliated with Shumway J. Bird & Co., certified public accountants in Washington, D. C.

Western Union Files New Bell System Agency Agreement

AGENCY AGREEMENT with Bell System, under which Western Union Telegraph Co. will sell telephone company private line services where requirements are for alternate use of voice with any one of five types of record communications, was filed with FCC, Oct. 25, by Western Union, which at same time withdrew its protest against Bell System's multichannel "volume rate" private line tariff.

Western Union General Attorney John H. Waters, in letter to Commission, said "By reason of the changed

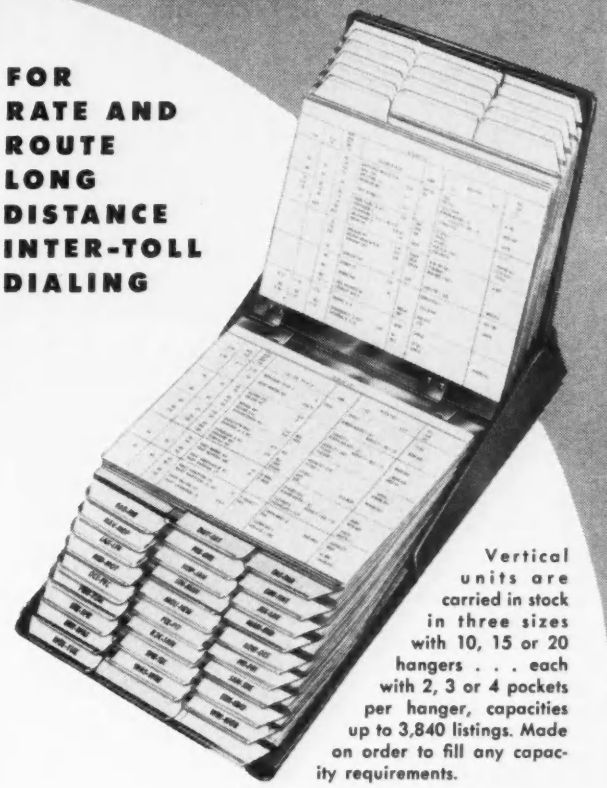
Please turn to page 17

ACME VISIBLE

FOR RATE AND ROUTE LONG DISTANCE INTER-TOLL DIALING

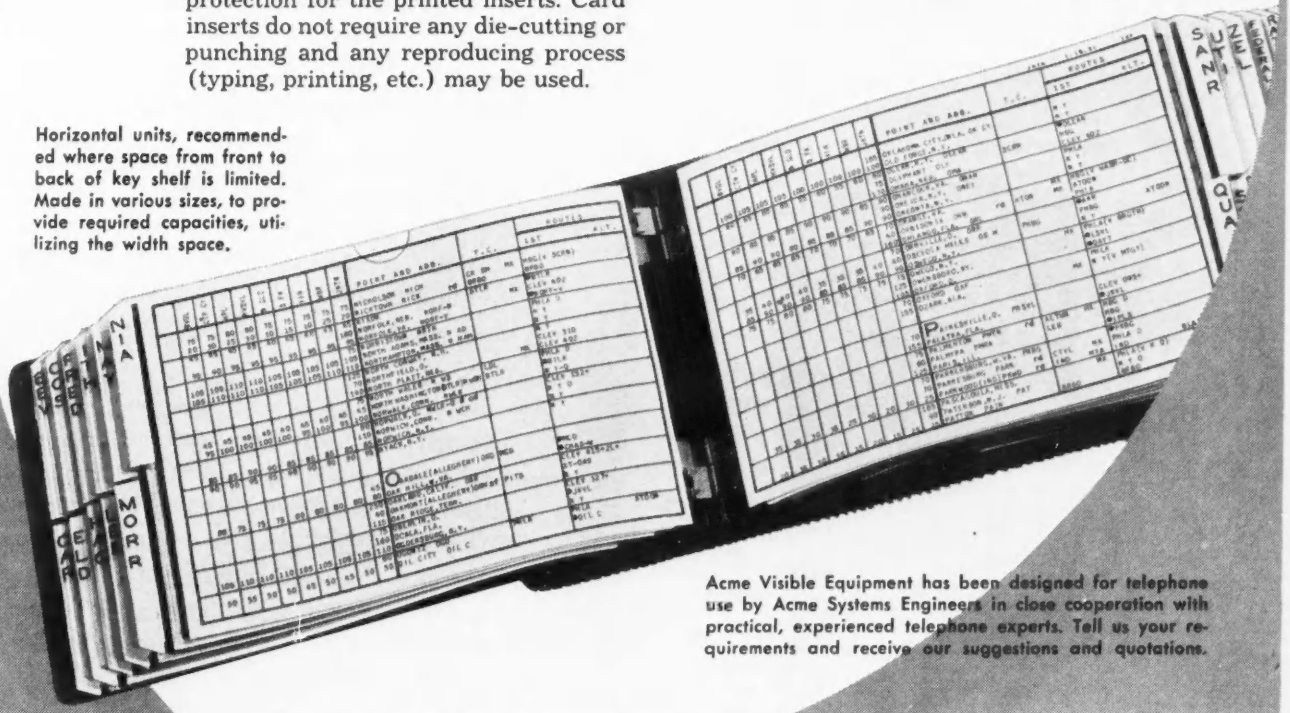
MULTI-CARD BULLETIN HOLDERS

Developed by Acme, working in connection with telephone engineers, to meet the exacting needs of the telephone industry, to conserve time, reduce cost of operation and improve customer service. They employ the use of clear transparent cellulose acetate pockets which hold card inserts. Suspended on steel hangers with 2, 3 or 4 pockets per hanger, both sides are visible. Made especially for Acme Bulletin Holders, with permanently attached hinges and reinforced index tabs, they provide real protection for the printed inserts. Card inserts do not require any die-cutting or punching and any reproducing process (typing, printing, etc.) may be used.



Vertical units are carried in stock in three sizes with 10, 15 or 20 hangers . . . each with 2, 3 or 4 pockets per hanger, capacities up to 3,840 listings. Made on order to fill any capacity requirements.

Horizontal units, recommended where space from front to back of key shelf is limited. Made in various sizes, to provide required capacities, utilizing the width space.



Acme Visible Equipment has been designed for telephone use by Acme Systems Engineers in close cooperation with practical, experienced telephone experts. Tell us your requirements and receive our suggestions and quotations.

MAIL COUPON TODAY

ACME VISIBLE RECORDS, INC. Telephone System Division, Crozet, Virginia

Please send us illustrated booklet S-1157

☐ #1088 on Acme Switchboard Keyshelf Units ☐ #975 on Acme Flexoline

☐ Have representative call. Date_____ Time_____

☐ We are interested in Acme Visible equipment for_____ records.
KIND OF RECORD

COMPANY_____ ATTENTION_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Early type page printer

Teletype Model 28 printer

TELETYPE® MARKS 50 YEARS OF PROGRESS

Progress, 1907 style, was built into our very first product here at Teletype—the first really practical telegraph printer.

Today, Teletype equipment—handling both text and punched tape—is helping communications companies spark progress for their customers in countless *new* fields . . . going far beyond its basic talents as a communications device. It is helping coordinate industrial production lines . . . classify freight cars . . . channel complex raw data to computer centers and retransmit the answers . . . speed the progress of office automation, cutting down on paper work at the same time.

It is likely that some of these progressive new Teletype ideas can help you offer even wider service to business and industry—and increase revenues from private wire and teletypewriter exchange services.

For more information send for our booklet, "The ABC's of Teletype Equipment." Write to Teletype Corporation, Dept. TEM11, 4100 Fullerton Avenue, Chicago 39, Illinois.

1957 Golden Anniversary Year

TELETYPE®

TELETYPE CORPORATION

SUBSIDIARY OF

Western Electric Company

INCORPORATED

Newsletter

(Continued from page 14)

circumstances, Western Union deems it appropriate that it hereby withdraw its protest" to the tariff. He added, "However, this withdrawal of the protest should not be construed as an expression either of approval or disapproval by Western Union of the level of private wire rates currently under investigation by the Commission."

Mr. Waters said discussions between Bell System & Western Union "have resulted in an agreement . . . between Western Union and each of the Bell System companies as a result of which the issues before the Commission with respect to the competitive effects on Western Union of the telephone company's (multichannel tariff) have been resolved."

Western Union, under the agreement, may solicit orders for telephone company private line services & channels where the requirements are for alternate use of voice with any of the following — teletypewriter, telephotograph, facsimile, data transmission, and remote metering, supervisory control, and miscellaneous signaling. Western Union will be paid 10 percent commission on all new business it brings in for period not to exceed four years.

NRECA President Raps Trend Away From Co-ops

ELECTRIC & telephone co-operative officials from three states convened at St. Nicholas Hotel, Springfield, Ill., last month with discussions of telephone loan & educational problems . . .

About 40 telephone co-operative officials from the three states heard NRECA General Manager, Clyde Ellis deplore REA's loan program's trend away from co-operatives in favor of Independent telephone companies.

Ellis declared NRECA has long been the sole public support for REA telephone loan programs, whereas Independent telephone companies opposed idea of REA loans for rural telephones in beginning as "socialistic." The same Independent companies, he charged are now getting the bulk of REA's telephone loan funds, "which is a fraud on the American people." . . .

Pending Rate Bids Totaled By AT&T

AMERICAN Tel. & Tel. Co., has reported Bell System companies have $118,000,000 of rate increases pending in 23 states. In last eight months, rate boosts have been granted in amount of $63,000,000 in terms of additional annual revenues. This total represents about 48 per cent of requested $130,000,000. New York Tel. Co. was awarded $33,000,000 increase earlier in October. Other major rate hikes included in $63,000,000 figure were granted in West Virginia & Tennessee.

COOL PERFORMER

when the heat's on!

Despite temperature extremes, you can depend on Kennecott lead-alloy sheathed cable to give perfect service! Its exclusive "Young Process" lead sheath and precision-wound tape insulation shrugs off heat damage that would greatly shorten the life of other types of insulation and sheathing. Proof of this is that Kennecott Telephone Cable lines have been giving superior service since 1897. Get full details from the Chase sales office near you.

IT'S KENNECOTT
TELEPHONE CABLE

INDEPENDENT

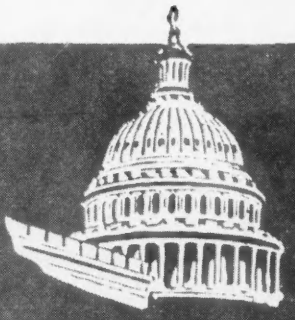
CHASE BRASS & COPPER CO., WATERBURY 20, CONN.
DISTRIBUTOR FOR

KENNECOTT WIRE & CABLE CO.
SUBSIDIARIES OF KENNECOTT COPPER CORPORATION

CHASE WAREHOUSES and OFFICES:

Atlanta	Cincinnati	Grand Rapids	Milwaukee	New Orleans	St. Louis
Baltimore	Cleveland	Houston	Minneapolis	Philadelphia	San Francisco
Boston	Dallas	Indianapolis	Newark	Pittsburgh	Seattle
Charlotte	Denver	Kansas City, Mo.	New York	Providence	Waterbury
Chicago	Detroit	Los Angeles	(Maspeth, L. I.)	Rochester	

WASHINGTON NEWSLETTER



NARUC Committees Study Rate and Revenue Problems

FACING UP squarely to some of the problems of inflationary cost increases and sharply raised cost of capital which confront everyone interested in the public utility field — management, customer, or regulator — two of the committees of the National Associa- of Railroad & Utilities Commissioners (NARUC) have come up with some of the most to-the-point thinking on the subjects observed in some months.

Pacesetters for discussion of the rate and revenue questions at the recent NARUC convention were the Committees on Corporate Finance and Rates of Public Utilities.

The rates group emphasized the long-range value to utility customers of earnings adequate to permit utility managements to make long-term commitments, while the *corporate finance committee suggested that regulators might consider giving less attention to cost of money formulas and more to utility expansion needs and the earnings of unregulated industries with comparable risks.*

Impact of Inflation On Operating Costs

IN ITS discussion of the value of permitting utility managements to make long-term commitments, the Committee on Rates of Public Utilities commented that:

"The renewed impact of inflation on operating costs, coupled with the increased cost of new capital, will most certainly exert a double pressure for upward revision of utility rates. This is especially true in the case of a utility that is faced with the problem of major plant expansion to meet increasing service demands.

"Lacking any offset, earnings adequate today under today's level of utility rates will inevitably become inadequate tomorrow. Moreover, this appears to be a continuing problem throughout the coming years. There are, however, a number of factors which hold forth some promise of at least mitigating this upward pressure on utility levels over the long pull. Success in this respect hinges on the manner in which utility operations are conducted. Fundamentally, it is a question as to whether a utility management functions with the long-term view in mind, or must tailor the pattern to accomplish short-term results.

"For example, if utility plant is constructed on a wholesale and stabilized basis, with the ultimate usage as the determining factor, utility service can be produced over the life of such plant at a cost lower than would be required if the plant were constructed on a piecemeal, start-stop basis. However, such a program, which has favorable long-range cost implications for the utility customer, involves the utility itself in higher initial capital commitment, together with its depressing effect on current earnings, and the assumption of a longer-term risk.

"In the utility operating field there are similar possibilities. Expanded research and long-range employe training may well produce increased efficiencies in the future years, even though expenditure for such purposes today results only in reducing current earnings. With some margin in current earnings, utility management can safely adopt these programs which operate for the long pull — the programs which promise in the long run to provide some offset to the continuing upward pressure on utility rates. However, if a utility management considers that earnings are already at an inadequate level, they will be apt to adopt only the short-term programs which minimize or eliminate risk and the immediate impact on earnings.

"Recognition of this particular function performed by adequate earnings is somewhat new to the field of regulated utilities. In unregulated industry, it has long been apparent that the management of those companies whose earnings have afforded them the opportunity to operate for the long pull are producing, on a quality-price balance, the goods that the consumer prefers. It may be that commission consideration of those factors should enter into utility rate fixing."

Please turn to page 22

What are we doing in the supply business?

by John Voss

When Tommy Thompson and I sit down, each year, to estimate our sales budget for the next year, we put an important allocation opposite the listing entitled "*Construction Materials and Supplies.*"

That's the part of our overall operation managed by Chet Reynolds, out in Chicago, and distributed out of five branches. Wire and batteries and pole-line hardware and tools and that sort of thing.

Once in a while, somebody asks me why we engage in this business of distribution — why we don't stick exclusively to CDO and subscriber equipment. The answer is that your purchases of the supplies we sell bring a fair profit which we use to support our research and development in products to reduce your operating costs and increase your revenue.

You see—like yourself—we are a truly independent company. Your problems are ours—and unless we are a few steps ahead of Telephony (and of our competition), both of us are apt to get into a rut.

I looked back over the Development projects of the last six or eight years, and checked off these as typical examples of new things we've been able to perfect, because you people have been generous in giving us income to work with.

The refinement of XY® CDO equipment—especially those features which make it so easy to maintain—meaning that a lot of companies can put most of their "repair" budget into capital equipment.

Toll Ticketing—two and one-half years in research before we offered it to you. Retains *both* A and B revenues for companies using it.

Our subscriber PX switchboard systems—the 2-10 and the XY F-40, in particular, which have been a boon to operating companies seeking new revenue at favorable rates.

The "1500" telephone—not only convertible from desk to wall by a 65 cent kit—but, since 1953, a "500" type, completely in accord with Bell standards of transmission quality.

The 6K-1 multi-line desk type PBX. Operating companies tell us that, for dollars invested, this system pays the greatest return of any product in the whole world of telephony.

Our new "501" wire-line Carrier—developed over two years of exhaustive studies into your needs, is a practical down-to-earth product.

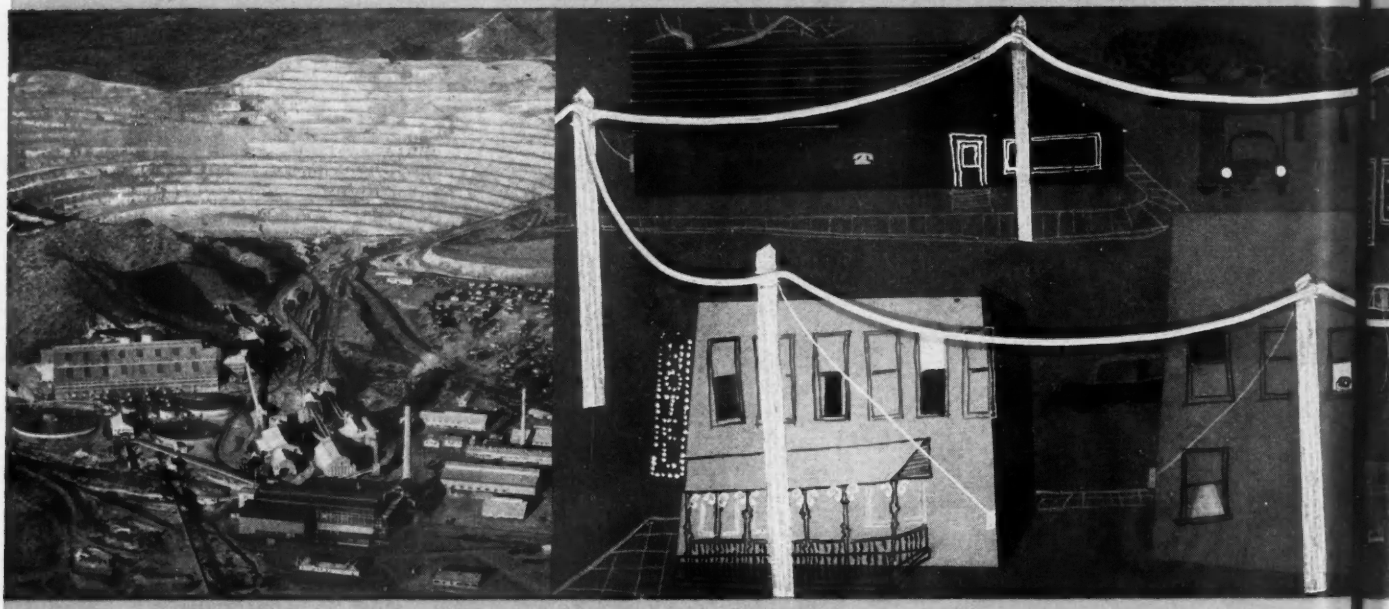
I'm sure you'll agree, these are all evidences of real progress. I want to remind you that they were made possible by your patronage—especially your orders in the realm of supplies— "bread and butter" items for us both!

John H Voss

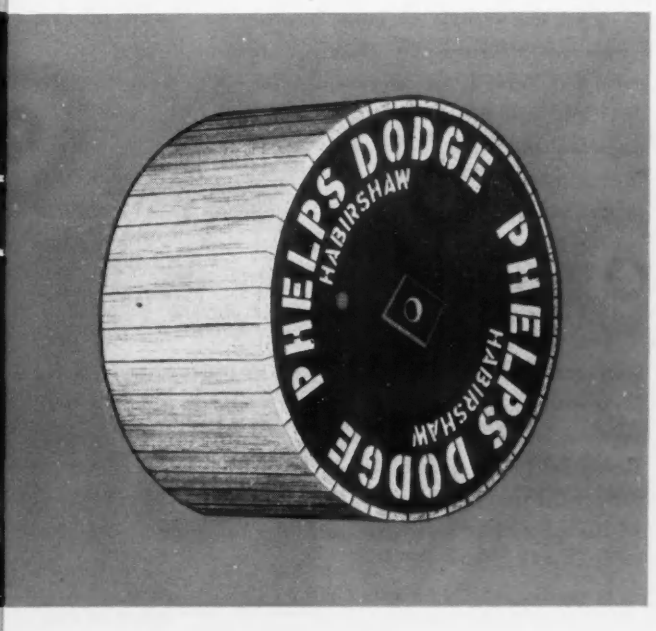
Vice President and General Manager
Telecommunication Division
STROMBERG-CARLSON, A Division of General Dynamics Corp.,
Rochester 3, N. Y.

Advertisement

Now... A Complete Line of Telephone Wire and Cable with the Famous Phelps Dodge "Mine-to-Market" Name!



- Highest grade copper from Phelps Dodge's own open-pit mines.
- Finest insulating materials for long-life service assured by exhaustive laboratory and field tests.
- Careful control of quality throughout fabrication to meet the most exacting specifications.
- Years of manufacturing experience in the communications field.
- Complete line of paper and plastic insulated telephone wire and cable to serve your needs.



PHELPS DODGE COPPER PRODUCTS CORPORATION

PHELPS DODGE COPPER PRODUCTS CORPORATION

SALES OFFICES: Atlanta, Birmingham, Ala., Boston, Buffalo, Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Detroit, Fort Wayne, Greensboro, N. C., Houston, Jacksonville, Kansas City, Mo., Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, N. Y., San Francisco, St. Louis, Seattle, Washington, D. C.

Washington

(Continued from page 18)

The group concluded that "*Faster growing inflation with continuing expansion of utility facilities at ever-increasing prices to meet demands for service will impose additional responsibilities on regulatory commissions. To meet the challenge of these increasing responsibilities in fulfilling their obligations toward the users of service and the providers of service will require of regulatory commissions vision and perspective. The policies of regulatory commissioners must be compatible with the programs of those utilities who plan for the long pull as distinguished from the make-do or short haul plan. Regulation that is repressive may work to the immediate advantage of the user of service today but it may also ultimately work to his grievous disadvantage for many tomorrows.*"

Cost of Debt Capital

REVIEWING the increasing high cost of debt capital, and the efforts of some utilities to "*sweeten*" the terms of offerings by making them noncallable for specified periods or increasing the call premiums, the NARUC Committee on Corporate Finance said "*The question that has to be decided is whether to obtain the immediate dollar savings in interest costs which might result from such features or to be able to control future financing by being able to refund when and if interest rates decline.*"

The committee went on, "*The increased cost of debt may result in less pressure on public utilities to solve their earnings problems by unduly increasing the debt in their capital structures. As this committees' report stated in* 1955 *and reiterated in* 1956: '*An increase in debt ratio carries with it the hazards of deterioration of the quality of securities and refunding problems*'."

It continued, "*The rapid rises in the cost of debt and of preferred stock capital have brought in sharper focus the inadequacy of earnings-price and dividend-price ratios as a measure of the cost of common stock equity. In many instances, such ratios are lower than the yield on high grade bonds. Certainly it is unreasonable to believe that junior equity capital, bearing the risks of the business, is cheaper than the capital represented by senior obligations. . . .*

"*While the increase in the cost of debt and preferred stock equity money in the past is comparatively easy to measure and has been considered by many commissions in arriving at a fair rate of return, the difficulties of measuring the cost of common stock equity raise the question as to whether or not the use of this method as a measure in determining fair rates of return should be reconsidered. It has been suggested that it might be more desirable to place less reliance on the so-called 'cost of money' for common stock equity and more such factors as earnings for unregulated industries with comparable risks and the expansion needs of the utility in determining a fair rate of return.*"

NARUC Approves New Separations Manual

AT THE NARUC CONVENTION, which is always closely watched by Washington observers both because of its status as a yardstick of the trends in utility regulation and because the federal regulatory commissions, as well as those of the states, are members, the final step was taken in the production of a revised telephone separations manual.

The new manual, rewritten for the first time in 10 years to conform to the 1952 and 1956 separations procedure changes, was approved by the convention in adopting a resolution offered by the Special Telephone Committee.

In the resolution, the association emphasized that "*In such a revision of the separations procedures, it is important to assure and retain in all jurisdictions uniform principles of separations procedures.*" It recommended the use of the new manual by all state commissions and the FCC.

Extended Area Service

AFTER DISPOSING of the subject of separations, the Special Telephone Committee's report turned to another major area — the question of extended area service.

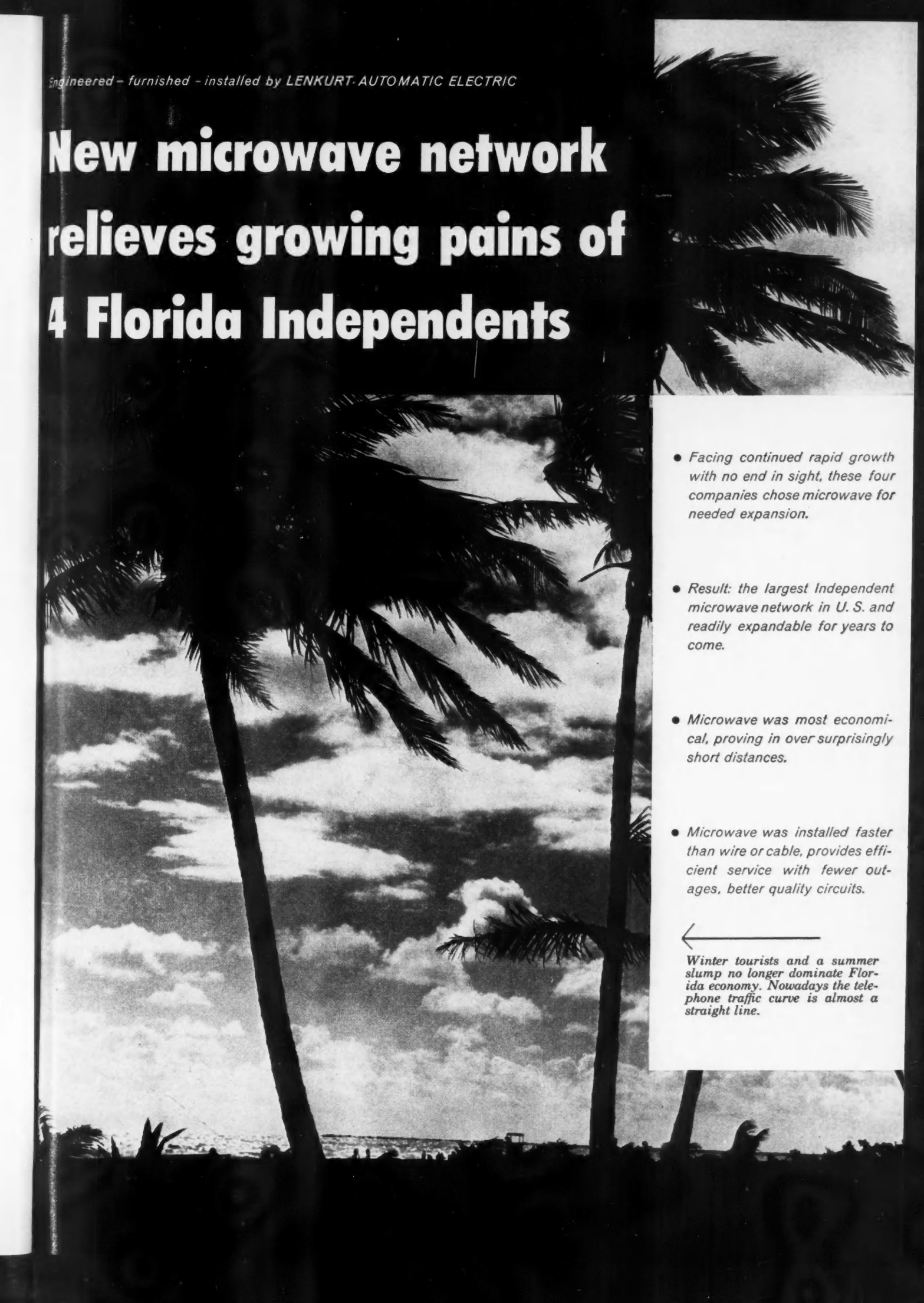
The committee declared that "*The great public demand for extended area service, or the inclusion of outlying communities and suburbs with their associated metropolitan centers in one consolidated local calling area, has raised many difficult regulatory problems. This is particularly true when this area embraces exchanges of two or more companies.*

"*Your committee plans to consider during the coming year whether this is a regulatory problem purely local in nature or whether it should be looked at from a national standpoint. It is contemplated that the initial consideration will be directed at determining whether or not the subject would lend itself to analysis on a national scale and what direction such analyses, if any, should take. Further authorization would then be sought prior to proceeding into any detailed research on the subject.*"

Please turn to page 30

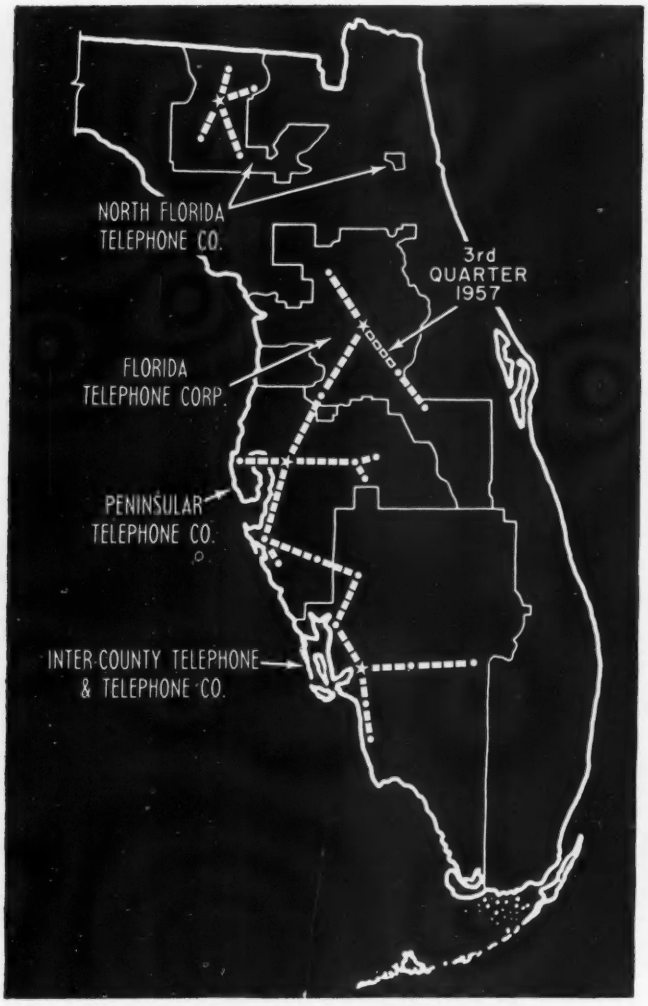
Engineered – furnished – installed by LENKURT-AUTOMATIC ELECTRIC

New microwave network relieves growing pains of 4 Florida Independents



- *Facing continued rapid growth with no end in sight, these four companies chose microwave for needed expansion.*
- *Result: the largest Independent microwave network in U. S. and readily expandable for years to come.*
- *Microwave was most economical, proving in over surprisingly short distances.*
- *Microwave was installed faster than wire or cable, provides efficient service with fewer outages, better quality circuits.*

Winter tourists and a summer slump no longer dominate Florida economy. Nowadays the telephone traffic curve is almost a straight line.



Microwave more economical and more expandable than cable or wire

Before turning to microwave as the most efficient way to expand, the four participating companies analyzed present and future circuit requirements, and made extensive cost studies of alternative methods.

Microwave the logical choice

Expensive retransposition of wire line facilities would not provide circuits for future expansion. Also, the more equipment there is on poles, the more it costs to move them—and an ambitious road improvement program is under way in Florida.

Laying additional cable would be too costly. A further drawback: some new circuits would initially be idle, causing the companies to pay for circuits before they were producing revenue. With microwave, the companies can quickly and easily add circuits as needed, in convenient multiplex groups. In the meantime, they won't pay for dead weight.

Microwave was quick to install—far faster than cable or wire. It often "proved in" over surprisingly short distances.

4 companies create largest Independent microwave network

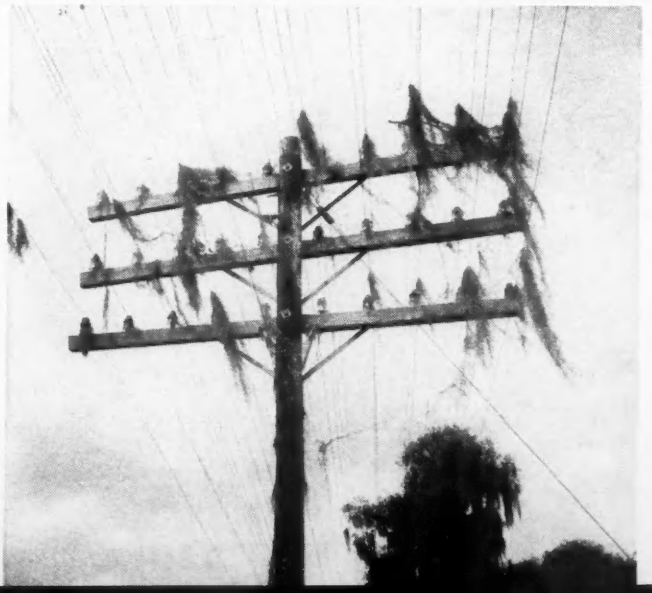
Peninsular Telephone Co., with general offices at Tampa, had nearly 311,000 telephones in service at the start of 1957. Serving 100 communities through 12 toll centers and 46 dial central offices, the company expects to double its toll capacity during the next five years.

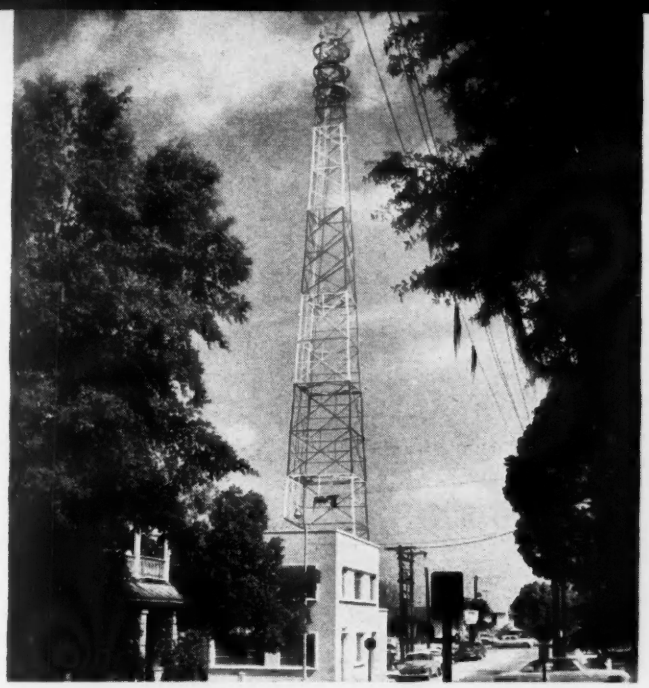
Inter-County Telephone & Telegraph Co., with general offices at Fort Myers and about 34,000 telephones from 20 exchanges in service, serves fast-developing twelve counties in southwest and south central Florida. Twenty-six exchanges with over 60,000 telephones in service by 1962 are forecast.

Florida Telephone Corp. operates 18 exchanges and five sub-exchanges in eight west coast and central counties. Florida Tel had 34,000 telephones in service at the start of 1957, and estimates it will have 55,000 by 1960.

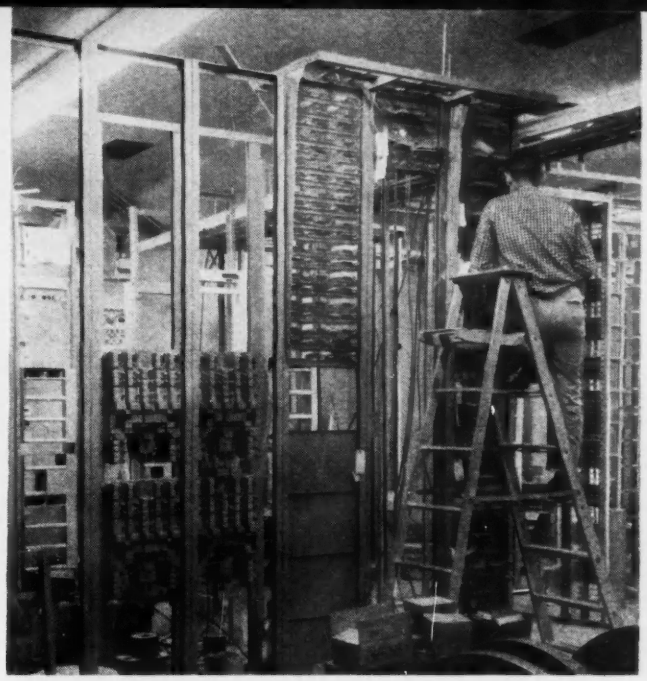
North Florida Telephone Co., organized in 1954, is making rapid progress in north central Florida. There were 4,767 telephones in service at the end of 1956. By 1958 the number should be 9,000.

Spanish Moss is an operating problem in many Southern states. It blows off trees, catches on the wire, slides down-wind to the crossarm, can establish leakage path to ground.





This 175-foot Florida Telephone Co. tower supports antenna for the Ocala-Leesburg microwave link.



Lenkurt and Automatic Electric installed most of the microwave equipment for North Florida Telephone Co.

Future expansion no problem

Peninsular's general traffic superintendent, George W. Rose, referring to the probability that capacity will double in the next five years, says, "I feel that it will be economically feasible to use microwave for all this growth. I doubt if we will use any more cable, except for short hauls." Inter-County's Fort Myers path can be built up to five times present capacity with radio equipment already in.

Fewer outages with microwave

Installed in the summer of '56, the new microwave system quickly proved its reliability. Last October, flood waters knocked out Florida Tel's entrance cable at Winter Garden and Kissimmee. But the microwave link was unaffected and continued to carry traffic; further proof that with microwave there are fewer outages under adverse weather conditions.

Can we help you?

In addition to furnishing all microwave equipment for this network, Lenkurt and Automatic Electric helped engineer the system and installed much of the equipment. A detailed description of this system is available on request. Or, if you face expansion problems and desire additional information, write or phone: Automatic Electric Sales Corporation, Northlake, Illinois. Fillmore 5-7111. *Offices in principal cities.* In Canada: Automatic Electric Sales (Canada) Ltd., Toronto.

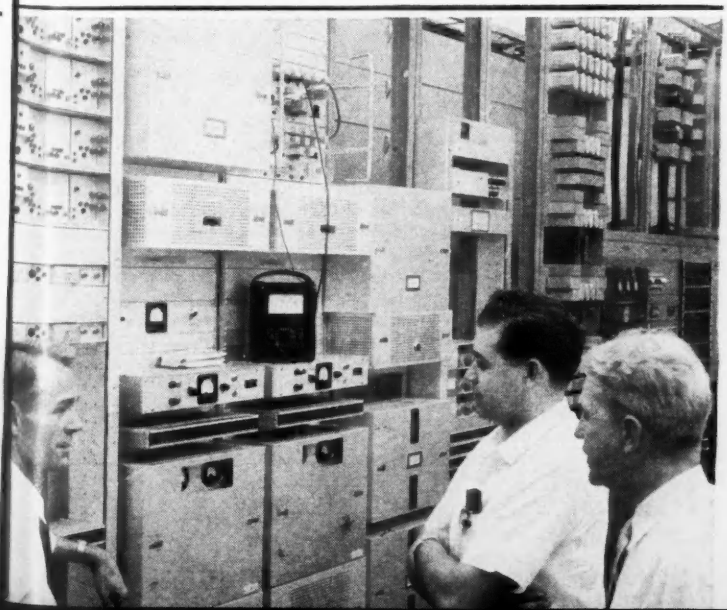
Lenkurt equipment is distributed exclusively by Automatic Electric.

AUTOMATIC ELECTRIC

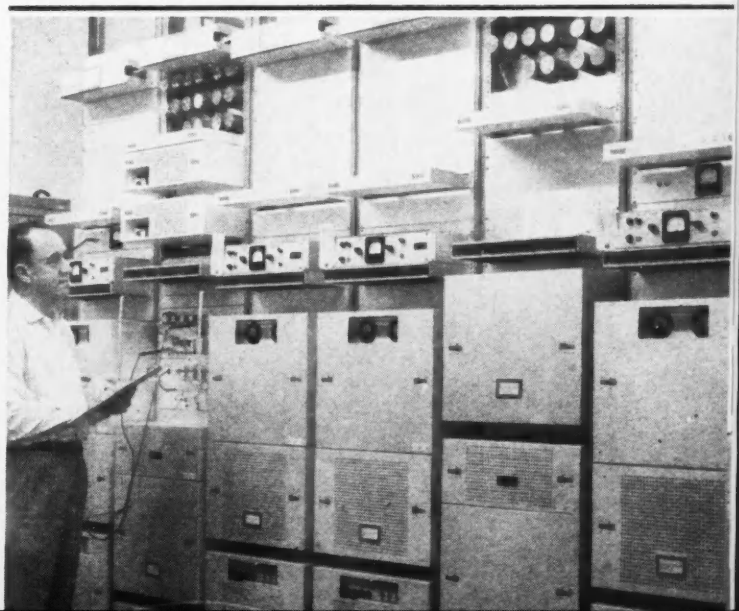
A member of the General Telephone System – One of America's great communications systems

GENERAL TELEPHONE SYSTEM

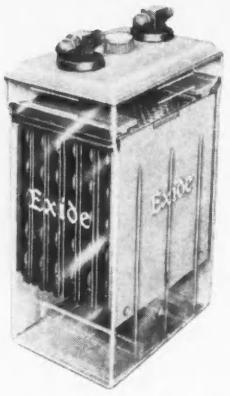
Robert Tidwell of Lenkurt (left), and Automatic Electric representatives Terry Swett and Grogan Shelor discuss details of installation at Inter-County's Arcadia office.



Peninsular's microwave maintenance superintendent, Arthur H. Stoutenberg, checks new equipment in the company's general office building at Tampa.

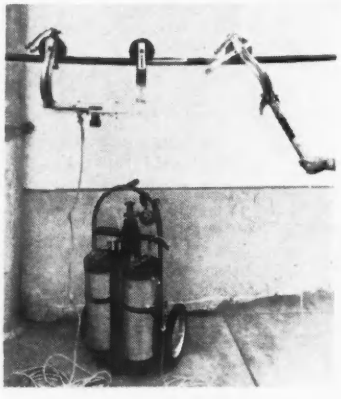


There's a Kellogg Warehouse near you.

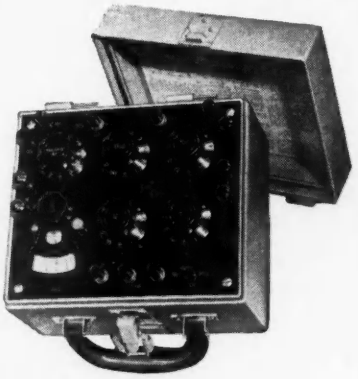


The Battery That Stays Young for Years. Built right into the Exide-Manchex Battery is a reserve supply of lead that converts automatically to active material as it's needed during the battery's long life. Hence, it keeps its full capacity for years. Exide Industrial Division, THE ELECTRIC STORAGE BATTERY COMPANY.

Corrosion-Resistant Crapo Stainless Steel Cable Lashing Wire, Type 430, is available in .045", .065", and .061" diameters. Crapo Galvanized (C Coated) Steel Cable Lashing Wire is available in .091" and .061" diameters. Made by INDIANA STEEL & WIRE CO., INC.



Cable Leak Detector—Two models are illustrated. Model at left is for high cables. Nozzles spray cable, air pressure from tanks causes air bubbles clearly seen from ground. S & G MANUFACTURING CORPORATION.



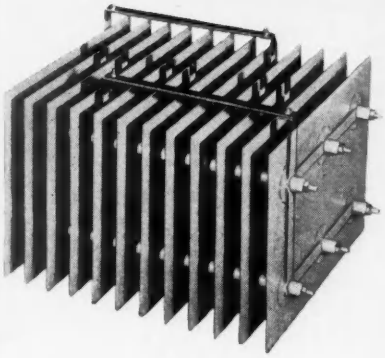
Shallcross No. 6100 Wheatstone Bridge—This portable instrument is designed to measure any resistance from 1 ohm to 1 megohm; locate grounds, crosses, opens, and shorts by the Murray, Varley, Hillborn or Fisher Loop and Capacitance tests. Can be operated by repairman wearing gloves. SHALLCROSS MFG. COMPANY.

Seven Kellogg warehouses and over 100 Kellogg distribution points from coast to coast assure you savings in shipping costs and fast delivery. You get the benefit of Kellogg's selection of top quality line supplies, too.

KELLOGG

A DIVISION OF I T & T

KELLOGG SWITCHBOARD AND SUPPLY COMPANY
A Division of International Telephone and Telegraph Corporation
Sales Offices: 79 W. Monroe St., Chicago 3, Ill.



Lorain Dry CEMF Cells—Lorain's important new product for eliminating telephone office maintenance associated with liquid filled cells. Light in weight, portable, safe, completely flexible as to voltage and current ratings.
LORAIN PRODUCTS CORPORATION.

World Standard for Quality since 1870, Hemingray Insulators—a product of OWENS-ILLINOIS. Available in a variety of styles and sizes for immediate delivery. No. 45—shown—employed for all toll and trunk circuits exceeding ten miles in length.

KELLOGG Branch Warehouses and Offices:

5924 S. Pulaski Rd.
Chicago 29, Illinois
REliance 5-7740

4501 Truman Road
Kansas City 1, Missouri
Humboldt 7085

23 Broderick Road
Burlingame, California
OXford 7-5780

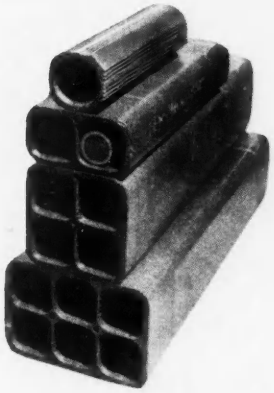
6100 Excelsior Blvd.
Minneapolis, Minn.
WEst 9-6715-16

1515 Turtle Creek Blvd.
Dallas 7, Texas
RIverside 7-5191

1555 West Fourth Street
Mansfield, Ohio
LAfayette 4-6511

1594 Southland Circle, N.W.
Atlanta, Georgia
Sycamore 4-2441

165 Prospect Street
Passaic, New Jersey
Prescott 9-3610



Single and Multiple Natco Clay Conduit for the permanent protection of underground telephone and telegraph cables against fire, corrosion, electrolysis, mechanical injury, and chemical attack. Available in 1, 2, 3, 4, 6, 8 and 9 duct sizes—salt glazed or unglazed. A product of NATCO CORPORATION.

Kellogg's Standard Outside Plant Handbook now available at special price while quantities last. Reduced to $2.75 a copy, with ten or more copies priced at $2.50 each. Every phase of outside plant telephone pole line construction is covered in book.

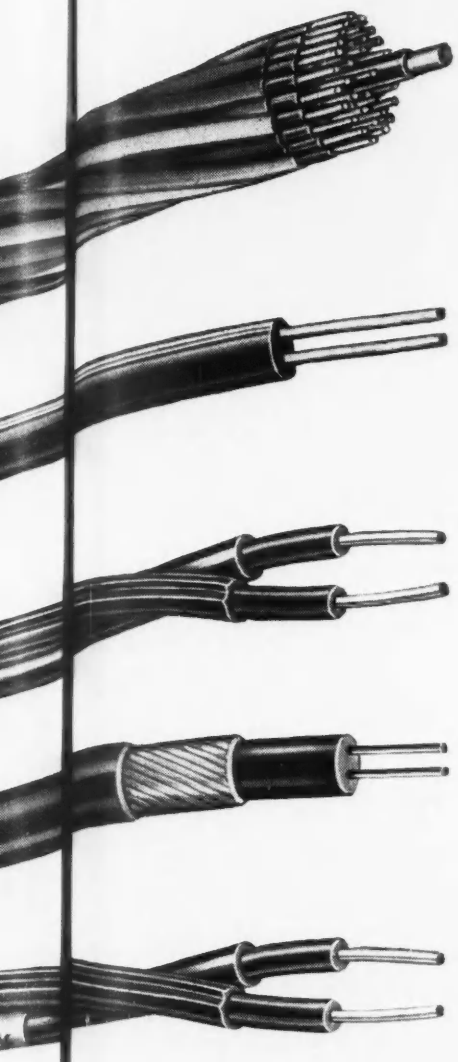
Want High Quality

Whitney Blake can fill ALL your needs

WB

WB has that which so many others have yet to gain . . . EXPERIENCE

DISTRIBUTION WIRE?



MULTI-PAIR DISTRIBUTION WIRE . . . Self supporting, available in 3, 6, 11 and 16 pair No. 19 AWG copper, polyethylene insulation and color-coded polyvinyl chloride covering.

PARALLEL DISTRIBUTION WIRE . . . Self supporting, available in extra high strength 30% Copperweld No. 14 AWG and .080". Insulated with WB special, tough black polyethylene compound.

TELEPRENE® DISTRIBUTION WIRE . . . Self supporting, available in No. 14 and No. 16 AWG hard copper conductors rubber insulated and neoprene jacketed.

ARMORED TELESEAL DISTRIBUTION WIRE . . . For direct burial, in No. 16 AWG soft copper conductors with specially developed, low moisture absorbing rubber insulation. Served armor of flat steel wires, neoprene jacket.

TELESEAL® DISTRIBUTION WIRE . . . For direct burial, available in No. 16, No. 14, or No. 12 AWG hard copper conductors, specially developed, low moisture absorbing rubber insulation, neoprene jacketed.

WHITNEY BLAKE has a complete line of distribution wire to serve the Independent Telephone Industry no matter what the need may be.

From one source — WHITNEY BLAKE — telephone companies can fill all their requirements with assurance of one high standard of quality . . . quality that has again and again demonstrated that the best wire — the longest lasting wire — is far more economical than a lower priced, short lived wire that needs early replacement.

WHITNEY BLAKE telephone wires are made by experienced wire makers and have proved their value in years of long service across the nation.

60 YEARS OF INDEPENDENT TELEPHONY
INDEPENDENT
1897 — 1957

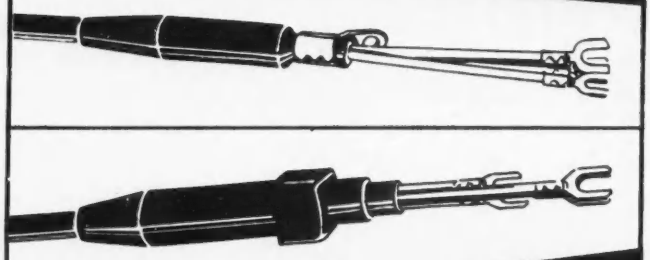
Well Built Wires Since 1899

©1957

WHITNEY BLAKE COMPANY

NEW HAVEN 14, CONNECTICUT

When QUALITY and SERVICE are important



. . . look to COMMERCIAL for

Extra Length Cords
Retractable Handset Cords
Test Cords and
Special Cords for
Inter-Communication Systems
Switchboard Cord Cushions

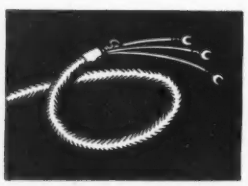
. . . ALL MADE BETTER TO LAST LONGER . . . ALL READY FOR YOUR CALL! OUR COMPLETE REPAIR DEPARTMENT is AT YOUR SERVICE for quick action on re-butting switchboard cords and re-braiding old cotton switchboard cords with Nylon

- **Handset cords**
- **Deskset Cords**
- **Switchboard Cords with or without plugs**
- **Receiver Cords**
- **Transmitter Cords**
- **Patch Cords**

with tough, long-wearing NYLON, NEOPRENE or MERCERIZED COTTON JACKETS

Write, wire or phone.
Catalog, samples and prices on request.

COMMERCIAL CORD
& SUPPLY CO., INC.
CLIFTON SPRINGS, N. Y.
Phone: Howard 2-5111



QUALITY CORDS FOR ALL MAKES AND TYPES OF TELEPHONE INSTRUMENTS

Washington

(Concluded from page 22)

NARUC Favors Repeal Of Communications Excise Tax

AT THE CONVENTION, the NARUC not only went on record once more in favor of repeal of federal communications and transportation excise taxes, but carried the program one step further by directing the NARUC President to appoint a special committee to work for abolition of the levies.

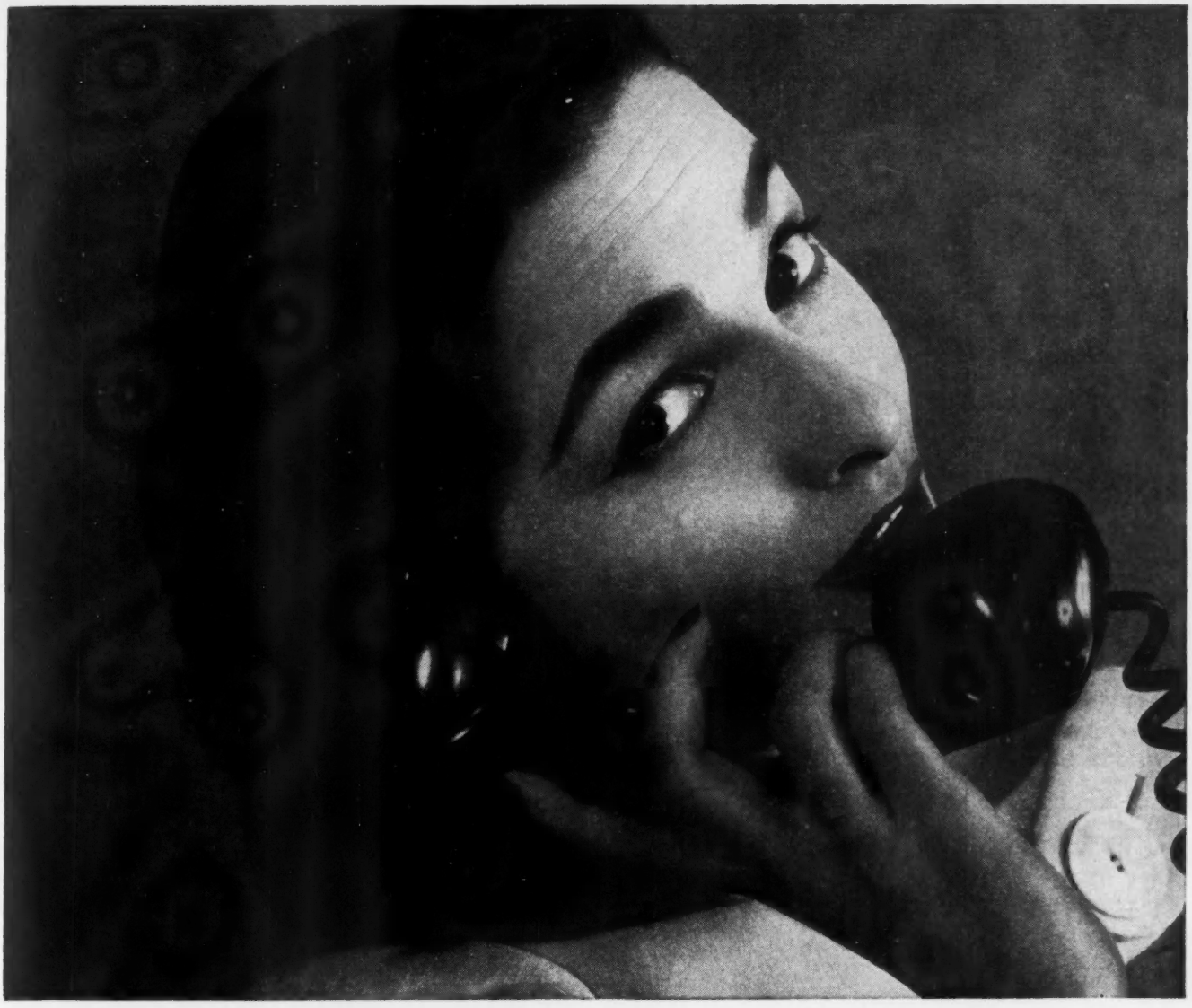
The resolution on communications excises pointed out that the 10 percent taxes on local exchange and toll telephone and on telegraph service are in effect 12 years after World War II, and that communications services must be considered "*necessities of present-day life.*" The taxes "*are considered by the customers as an integral part of the cost of communication services,*" it was pointed out, and on telephone service amounted to more than $9 per telephone in 1956.

Accelerated Depreciation

DISCUSSING accelerated depreciation in line with the 1954 revisions of the Internal Revenue Code, the NARUC Committee on Valuation reported on a survey of state commission orders on the subject. The commissions reporting in the survey fell into four groups, the committee said: "*One, those who treat the deferred income taxes as a tax saving and require the utilities to report only those taxes which are payable currently as an expense. The second group consists of those where the commission prescribes recording the accumulation in restricted surplus. The third group, which appears to be by far the largest, prescribes that the tax deferral accumulated should be recorded in a special reserve. The fourth group has established no policy in connection with the treatment of deferred income taxes. This is due to the fact that in most instances no utilities in the states have taken advantage of the liberalized depreciation program.*"

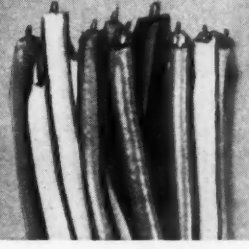
The committee listed six states in the first group; 10 in the second; 16 in the third; and eight in the fourth.

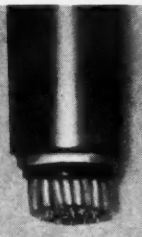
Outlining activities of the Washington office and developments on the legislative front, NARUC General Solicitor Austin L. Roberts, Jr., reported that the House Ways & Means excise tax subcommittee may hold a meeting in November to discuss its program for consideration of excise revisions. (It appeared later, however, that the subcommittee may not be able to hold the meeting until December.)



THE MESSAGE IS: MONSANTO

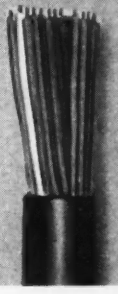
Sturdy OPALON 72285 over primary insulation for color-coded, weather-resistant jacketing. Polyethylene 14202 and 11302 for primary insulation of conductors and insulation for steel support wire in Multi-Pair Distribution Cable.

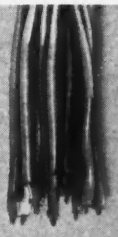




OPALON 1706 for semi-rigid primary insulation in various types of communication cable.

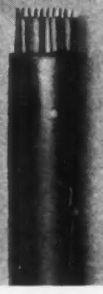
Polyethylene 12203 and 12253 for primary insulation, Polyethylene 14202 for jacketing in jacketed Thermoplastic-insulated, Thermoplastic-sheathed Telephone Cables.





Rugged weather-resistant color-coded OPALON 72285, available in eight standard colors, for primary insulation and Polyethylene insulation for steel support wire on Urban Distribution Cable.

OPALON 1006 for primary insulation, OPALON 72217 for jacketing in Inside Telephone Wiring Cable.



your finest single-source for **polyethylene and vinyl** *telephone insulating compounds*

Wire and cable producers like the multiple choice that Monsanto supply offers—9 formulations, polyethylene or Opalon vinyl, all specially developed for critical communications applications.

Here, from one great single-source, are the insulating compounds combining the many different mechanical and electrical properties you need . . . insulating efficiency, extrusion characteristics, surface finish, weatherability, colorability.

Call in your local Monsanto representative for the full communications story, or write for technical data and other information to Monsanto Chemical Company, Plastics Division, Room 3078, Springfield 2, Massachusetts.

OPALON: REG. U. S. PAT. OFF.

MONSANTO

REG. U. S. PAT. OFF.

SCOTCHCAST BRAND Pressure Splice...

POSITIVE SEAL for FIELD SPLICES

"UNIPAK" *Container holds laboratory-correct mixture of "SCOTCHCAST" Resin No. 4 to make a quick, easy, factory-quality splice insulation in the field.*

Here's a revolutionary new method of sealing field splices made possible by "SCOTCHCAST" Epoxy Resin in the easy-to-use "UNIPAK" container. This new "SCOTCHCAST" Pressure-Splice method provides a simple, practical, and quick way to seal field splices on communication or power cables where the size, shape, position, or inaccessibility of the splice make gravity-pour resin-sealing methods difficult. The Pressure-Splice method even works upside-down as illustrated.

For further information, just write on your letterhead to: 3M Co., St. Paul 6, Minn., Dept. MI-117

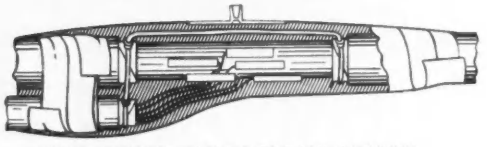
REG. U. S. PAT. OFF.

SCOTCHCAST BRAND Splicing Kits

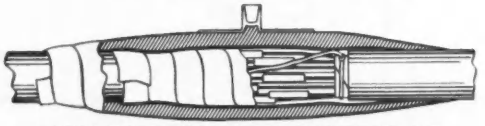
... by the makers of
"SCOTCH" Brand No. 33 Electrical Tape

REG. U. S. PAT. OFF.

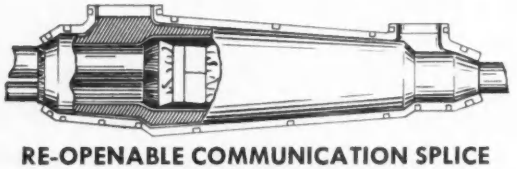
SCOTCHCAST BRAND seals all these splices:



WYE COMMUNICATIONS SPLICE
—use "SCOTCHCAST" Pressure-Splice



NON-IMPREGNATED CONDUCTOR
—use "SCOTCHCAST" Pressure-Splice



RE-OPENABLE COMMUNICATION SPLICE
—use "SCOTCHCAST" 89 series Kit

COMMUNICATION INLINE SPLICE
—use "SCOTCHCAST" 82-A series Kit

The terms "SCOTCH", "SCOTCHCAST", and "3M" are registered trademarks of Minnesota Mining and Manufacturing Co., St. Paul 6, Minn.
Export Sales Office: 99 Park Ave., New York 16, N.Y. In Canada: P.O. Box 757, London, Ontario.

PRODUCT OF 3M COMPANY RESEARCH

EDITORIAL

"Decision From Iowa"

TO THE WORLD at large Iowa is affectionately known as the "*State where the tall corn grows,*" but, unless we miss our mark we believe utility people may start referring to Iowa as the state which recognized the difference between the buying power of a 1930 dollar and a 1958 dollar and did something to correct the situation.

This new descriptive phrase started building itself a few weeks ago. It made itself known when the Iowa Supreme Court came up with a decision recognizing that: —

(1) *Utility companies have been fighting a losing battle in their attempts to find a workable solution to the problem of being forced to operate on a cost basis of by-gone years.*

(2) *Utilities were losing the battle because they were caught between rising costs for the replacement of worn-out plants and rate schedules set on the basis of equipment costs that may have a place in the history books but certainly have no place in any calculation attempting to establish a fair and realistic rate base for a utility company.*

Briefly here is what happened in Iowa. In the case of the Iowa-Illinois Gas & Electric Co., versus the city of Fort Dodge, The Iowa Supreme Court ruled: —

(1) *The replacement costs of the utility company's assets must be used in deciding the rate base on which the company is allowed to earn its return; and* —

(2) *In determining the value of its assets, the company was entitled to use a figure consisting of original costs plus seven tenths of the difference between original costs and replacements costs.*

With that decision, the Iowa Supreme Court gave an important and long, overdue boost to the use of reproduction costs for evaluating public utility property.

The decision marks an important change from the position held by some public utility commissions during the past decade or so. It sets a new guide for those commissions which since the mid 40's have seemingly determined to accept only an original cost rate base while ignoring what inflation had done to the cost of replacing worn-out property.

We well know many commissions have been guided by the U. S. Supreme Court's ruling in the Hope Natural Gas case.

This decision, handed down in 1944, held that "fair value" or reproduction cost need no longer be followed by commissions in setting rates as long as the commissions saw to it that utilities were kept financially strong enough to attract investment capital.

Utility men know many commissions actually interpreted the Hope case ruling to mean the reproduction cost theory was out.

We believe the recent ruling of the Iowa Supreme Court swings a fair, above-the-belt blow at those who interpreted the Hope case decision to mean a utility can't earn on what its property is worth but only on what it cost years ago.

That blow is long overdue. For, as the Iowa decision points out, the Hope case was decided on the basis of facts as they were in 1939. If you'll recall those days, you will remember the nation was nearing the end of a 20-year period of leveling or declining prices and construction costs. It follows that those who wrote the Hope decision could not have foreseen the decreased value of today's dollar.

The Iowa Supreme Court gave such facts more than a mere glance. It reasoned that since all non-regulated industries are able to plan their operations and prices on the basis of a rising price level utilities should have the same privilege.

And in so recognizing the facts, the Iowa Supreme Court has handed down a decision that is a major setback for the advocates of the original cost concept.

We hope the Iowa decision will be carefully read, studied, and abided by. If it is, the day may soon arrive when reproduction cost will be given exclusive, clear-cut recognition in the rate-fixing process.

When that happens, we feel sure regulatory commissions will have a proper base for establishing rates and earnings that will stimulate progress, increase incentives, nourish innovation — and in the long run bring telephone users the greatest value.

(The foregoing editorial, although copyrighted, may be reprinted in whole or in part without charge, provided credit is given this publication and a copy of such reproduction is filed with this publication. This legend need not appear on the publication.)

are you missing

5 out of

8 toll customers?

Get 100% access to toll with XY® Dial Equipment

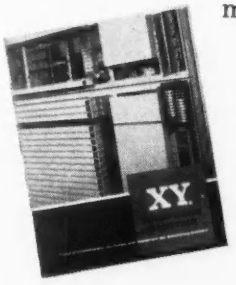
You need no separate toll train when you buy Stromberg-Carlson dial equipment.

The top diagram at the right shows you how an XY Dial System provides 8 local connections *or* 8 toll connections or *any combination of both* per 100 lines.

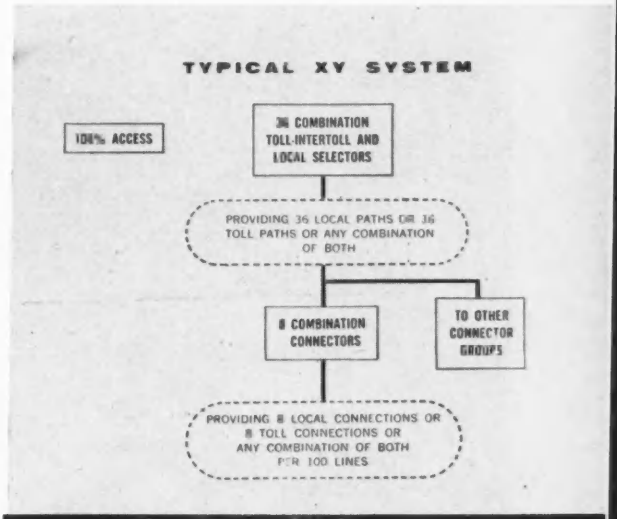
With an XY System you lose no toll traffic because *every* selector in *every one* of the second selector groups carries *all* classes of traffic—local, toll or intertoll.

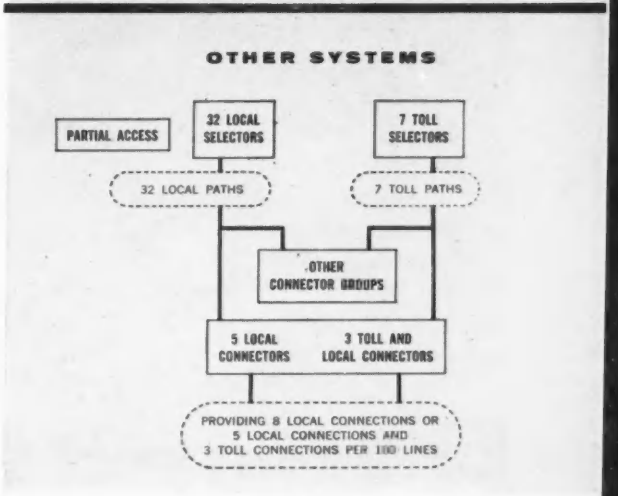
With other systems, more switches, shelves and cabling are required to carry normal traffic loads. And even with this additional equipment, fewer switching paths are available for each class of service. The unhappy prospect of "all paths busy" during traffic peaks is increased.

100% access to toll is one of the many XY Dial features that cut costs and increase efficiency. Others are vertical wire banks that need no care or cleaning, the XY Universal Switch that serves as finder, selector or connector, the "Fourth Wire" that performs extra functions at no extra cost, welded twin contacts in switches and wipers, and "back-to-back" placement of equipment that conserves floor space.



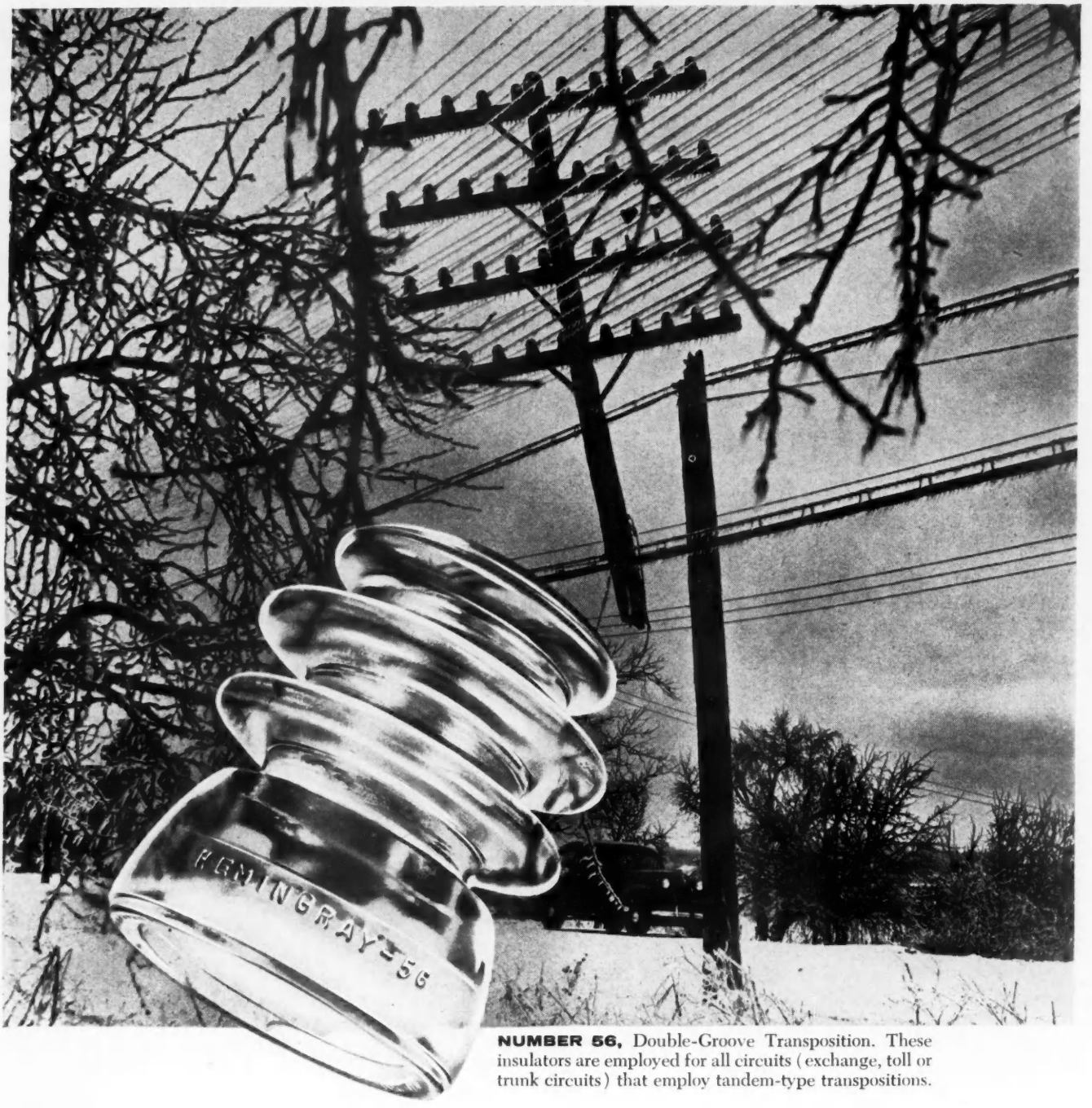
You can get the complete XY story from Booklet T-2003, available free from the Stromberg-Carlson sales office in your area. Write or call for your copy today.


TYPICAL XY SYSTEM
100% ACCESS
36 COMBINATION TOLL-INTERTOLL AND LOCAL SELECTORS
PROVIDING 36 LOCAL PATHS OR 36 TOLL PATHS OR ANY COMBINATION OF BOTH
8 COMBINATION CONNECTORS
TO OTHER CONNECTOR GROUPS
PROVIDING 8 LOCAL CONNECTIONS OR 8 TOLL CONNECTIONS OR ANY COMBINATION OF BOTH PER 100 LINES


OTHER SYSTEMS
PARTIAL ACCESS
32 LOCAL SELECTORS
7 TOLL SELECTORS
32 LOCAL PATHS
7 TOLL PATHS
OTHER CONNECTOR GROUPS
5 LOCAL CONNECTORS
3 TOLL AND LOCAL CONNECTORS
PROVIDING 8 LOCAL CONNECTIONS OR 5 LOCAL CONNECTIONS AND 3 TOLL CONNECTIONS PER 100 LINES

STROMBERG-CARLSON
A DIVISION OF GENERAL DYNAMICS CORPORATION

Sales Offices: Atlanta 6, Chicago 6, Kansas City 8, Rochester 3, San Francisco



NUMBER 56, Double-Groove Transposition. These insulators are employed for all circuits (exchange, toll or trunk circuits) that employ tandem-type transpositions.

Dependable ...in emergencies

When they're on the line, you can *depend* on their strength and uniform high quality.

When you order you can *depend* on prompt deliveries of what you need . . . when you need it.

Since 1870, when Robert Hemingray began mass production of screw-thread insulators, Hemingray has pioneered most of the insulator developments to keep pace with the requirements of the communication systems of the world.

Today, as always, Hemingrays are world standard for quality, and most of the overhead telegraph and telephone lines of the world are carried on *dependable* Hemingray Glass insulators. They are a product of Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio.

HEMINGRAY INSULATORS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

100,000 feet of trench in eight months on scattered jobs—that's what a Barber-Greene ditcher delivered for a Midwest utility company.

12 Barber-Greene ditchers travel 800 miles ... dig 100 jobs daily

To speed up house service installation, a Midwest utility, name upon request, bought three Barber-Greene Model 711 Ditchers. These ditchers paid off so well that nine more similar units with variations in boom design were soon added to meet the growing need for fast service trenching in the 250 different communities served by this progressive utility. This fleet of 12 has dug over 625,000 feet of trench in less than a year. As a result of this performance record, four more of these versatile ditchers have been added to the line—boosting the total to 16.

Here are some of the features of the Barber-Greene Model 711 ...

Unmatched mobility: Rubber-tired mounting provides fast job-to-job travel. Easy to drive, this Barber-Greene cruises at 45 m.p.h. ... shrinks distances between jobs.

One-man operation: Once on the job, the operator merely lowers the boom and starts digging. Hydra-Crowd control permits infinite range of digging speeds from 0-13 feet per min.

Greater traction: ... with four-wheel drive. An important feature when digging on slopes and hillsides or on soft, muddy ground that often surrounds new housing projects.

Saves lawns and curbing: Low bearing pressure and proper weight distribution offer real protection to lawns, sidewalks and curbing. Low height prevents entanglement with trees.

This is just one of five different Barber-Greene ditchers, each designed to cut costs on a wide variety of jobs.

Write for literature on the ditcher that saves time on the job and on the road.

Barber-Greene BG

AURORA, ILLINOIS, U.S.A.

CONVEYORS ... LOADERS ... DITCHERS ... ASPHALT PAVING EQUIPMENT

Pilgrim's progress

Since the first Thanksgiving . . . the essence of our progress has been an improving ability to communicate. To share ideas and events *instantly*. Today, Independent telephone companies provide this indispensable service throughout *two-thirds of the entire area of the nation* . . . look ahead to an expanding future built on enterprise.

60 Years
of Growing Service
1897-1957

INDEPENDENT TELEPHONE COMPANIES

helping you reach all America

U.S. Independent Telephone Association
Pennsylvania Building, Washington, D.C.

"Our philosophy of education has been, and is, to educate as many citizens as possible, consistent with our ability to vote funds for education."

Many Traditions Contribute To The Training Of An Engineer

By F. C. MIRGAIN*

MAN, BY NATURE, instinctively desires to contribute to the betterment of his community, to receive the praises of his fellow man, and to leave his mark in the courses of history. Perhaps more so than in any other country, we in the United States have developed an educational system designed to satisfy these social tendencies of man, and this system might be said to be in the "mass production" tradition. Our philosophy of education has been, and is, to educate as many citizens as possible consistent with our ability to vote funds for education.

A criticism of our education system frequently expressed is that our emphasis is on quantity with slight regard for quality. An important corollary to our educational philosophy has been our refusal to degrade the man, who, for one reason or another, has not had an extensive formal education. Rather, we have all but idolized the men and women who have pulled themselves up by their bootstraps, those who have shown great initiative, imagination, and judgment — the Henry Fords, The Walter Chryslers, the Thomas Edisons, and the Harvey Firestones.

Contributing To The Needs of Mankind

OUT OF THIS educational tradition has come the engineering profession, a blend of self-made engineers with those produced by formalized instruction. During the past 30 years, particularly, the engineering profession has come into its own, and has demonstrated time and again its ability to solve many problems, in time of war and in time of peace, contributing effectively to the needs of mankind.

The number of items produced by the engineer to make life more pleasant, more rewarding, and more worthwhile is endless. Enumeration of all the contributions of the engineer would be a herculean assignment, but the mention of a few will help us better understand the problems inherent in the training of an engineer.

The automobile has been developed from a luxury item which required two weeks of preparation for a 10-mile Sunday afternoon ride to a necessity almost as common as tables and chairs. Today's vehicles with automatic transmission, power brakes, high and efficient horsepower, long mileage tires, and smooth riding characteristics are truly a monument to the engineer.

Around the corner are air suspension, turbine engines, and electronic control for even greater efficiency, safety, and performance. In the field of communications we have a telephone system that permits us to talk in a matter of seconds to anywhere in the world. Our radio and television networks not only have great utilitarian value in keeping our people well informed, but also have been responsible for vast changes in our entertainment.

The development of frozen foods has created a new industry, has changed the eating habits, and has given the housewife time for an ever increasing number of

*Dean, School of Engineering, North Dakota State College, Fargo, N. D.

community activities. Could our current standard of living be possible without the large number of women who have found it possible to be added to our employed population?

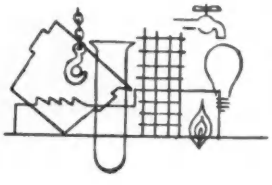
Problems Facing The Engineer

WHAT ARE some of the problems facing the engineer in the immediate future? Atomic energy, a vast new source of power with an ability to produce products that can be exceedingly beneficial to mankind, has given us a fantastic new tool. The use of isotopes in the field of medicine offers potentialities almost beyond human hope just a few years ago.

We must develop new and substitute materials for many areas of our industrial activity. Examples of this type of engineering endeavor are the revitalization of the famous Mesabi iron range with the introduction of a process to reduce low grade taconite ore and the development of materials to resist extreme temperatures for the construction of our supersonic speed airplanes.

Solutions to the traffic problems of our cities, as well as their problems of air pollution and water supply, will necessitate the attention of many engineers.

Another era, much in the public eye, is that of automation. Automation is manufacturing, processing,



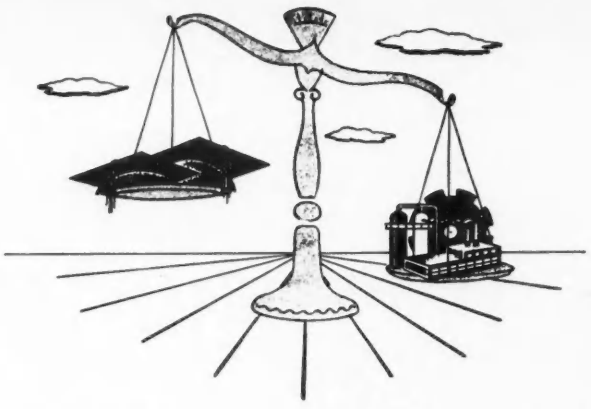
"We must develop new and substitute materials for many areas of our industrial activity."

or performing services as automatically as economics permit or demand. It is the process of telling a machine what to do, when to do it, and to prevent it from doing anything else.

Very often we are prone to confuse automation with mass production. The primary feature of mass production revolves about dimensional stabilization to permit interchangeability. The worker, by his skill and the use of standardized measuring instruments produces interchangeable parts. In mass production assembly we place great dependence upon the skill of the workman.

Now, with automation, it would appear that in making the machine do the measuring and providing the skill, we are eliminating the worker. The truth is that we are causing the worker to change to an occupation which is intellectually more demanding, and in the process of doing so, he attains an easier life and a higher standard of living.

As an example, we might take the production of electric light bulbs. Today, in a modern automated plant, a single workman produces five million bulbs per year. In 1927 this same workman produced 16,000 per year. Another way of looking at this would be to say that today we would need 300 workmen where the other 299 could be obtained. Perhaps we should also ask, could we still sell bulbs at 19 cents and also have our current standard of living?



"In the immediate years ahead there will be need for an ever increasing number of engineers, scientists and technicians. . . ."

The Shortage of Engineers

THERE IS very little disagreement with the thought that in the immediate years ahead there will be need for an ever increasing number of engineers, scientists, and technicians. It has been estimated that our total work force will be short some 76 billion man hours per year by 1976.

The major solution to this shortage lies in increased mechanization and automation. In turn, this means that each individual in our working force must be operating at a higher intellectual level than is true today. Opportunities in engineering obviously are going to be greater and more challenging than they are today — and today's opportunities are seemingly unlimited. The son of today must receive a better education than was given his father, and the percentage of engineers and scientists in our population must increase.

In the face of current publicity given to juvenile delinquency, it is heartening to note a trend toward the sciences by an ever increasing number of teenagers. Our high school young people are demanding more courses in mathematics and sciences and, most importantly, the student enrolling in these subjects is no longer considered a "dope" by his classmates.

In fact, this trend is presenting our secondary school administration with the serious problem of providing qualified teachers. The student planning to attend an engineering college needs extensive high school work in mathematics and the sciences. A simple way to advise such a student is to encourage him to take all the subject matter in this area offered by his high school. Engineering colleges require at least 2½ years of mathematics and many require three years or more, covering the subjects of algebra, plane geometry, solid geometry, and trigonometry. In addition chemistry and physics are required or strongly recommended.

The curricula in our engineering colleges can be broadly divided into four major areas of study.

Please turn to page 66

A "Town Meeting" type of Open House at a CDO is a sure good-will booster.

Service in Community Dial Offices

By C. A. MARTIN

It is easy to neglect subscribers served by unattended dial offices and create a class of "Forgotten Customers." If you have CDO subscribers who are suffering from lack of attention, why not try the subscriber contact" idea described by this article? It will let your subscriber know he hasn't been forgotten.

AS OUR telephone industry has grown, and as trunking facilities have become more and more flexible and efficient, we have found it to our advantage to establish unattended dial offices, and to trunk our toll and assistance traffic to some nearby town or city for operator services. With constantly improving trunk facilities, we find it economical to trunk this traffic over considerable distances.

Many of these community dial offices are in localities so sparsely populated that we do not find it economical to maintain commercial offices there, and in some cases, even plant department attention is on a part-time basis, such attention being shared with other localities or furnished from the master office.

With such arrangements, it is easy for us to give our subscribers something less than our wholehearted attention, and to create a class of subscribers whom we might call our "Forgotten Customers."

Now I feel quite sure that you would not agree that, just because these people are living in isolated areas, with few, if any, telephone employes living and working nearby, they should receive any less attention than our customers in the larger cities. Actually some of our most important customers are to be found in our smaller localities. What should we do to see that these people are served as well as the city customers?

"A Joint Responsibility"

FIRST, I think that we should realize that the major responsibility for direct, personal contact with these people has in the past been carried by our Commercial departments, and that this should probably continue to be so. However, the responsibility for service is truly that of *all* departments, and this includes Traffic.

Who in Traffic would be logically responsible for contacts with these customers? Surely it is the Master Office Chief Operator. It is this Chief Operator to whom the CDO customers look in times of trouble, and it is through her office that these customers maintain contact with the outside world.

I feel quite sure that, if you were to ask subscribers in a CDO whom they considered "the telephone com-

pany," most of them would name, first, the Master Office Chief Operator, and second, the local Plant man. If you selected an area in which there was a wide-awake, active Plant man who took a real part in community affairs, I am sure that it would be he who was named. But even here, if you asked to whom they would turn in an emergency or in times of trouble, I feel sure that they would tell you that they would call the Master Office Chief Operator.

Now, it appears to be but a short step from these facts to a realization that some sort of personnel contacts between the Master Chief Operator and her CDO customers will be of benefit to the customers, to the company, and to the Chief Operator herself.

We in the General Company have started such a program of contacts, and the Southwestern Bell Telephone Co. has been doing it for some time.

Here are some of the advantages they list, and for these I am indebted to N. T. Dunlap of the Southwestern Bell:

(1) *Through visits, the Chief Operator will be familiar with the physical layout of the community. Such knowledge may be invaluable in case of an emergency.*

(2) *They provide contacts and an opportunity to meet and mingle with the larger toll users and key people in town, individually and in groups. These visits constitute one of the best tools available for demonstrating that the telephone company is a vital part of community life and show how telephone people participate in the life and work of the community, thereby improving overall public relations.*

(3) *To obtain appraisals of the quality of service.*

(4) *To distribute "Blue Books" and otherwise promote calling by number.*

In addition to a visiting program, we may reach our customers more often, and make more contacts, by a routine program of calling them on the telephone. In some localities, the Master Office Chief Operators are following a program of calling a certain number of CDO customers each day and where this has been done the results have been highly satisfactory.

Open Houses

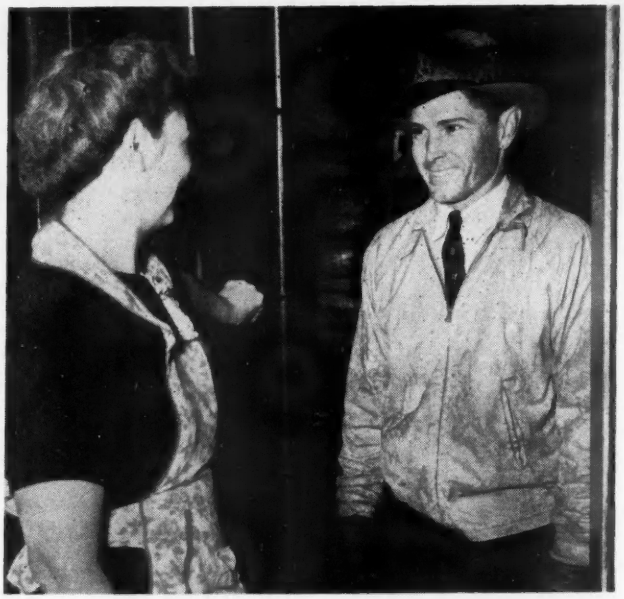
WE ALL KNOW about open houses, of course, but how many have heard of an open house at CDO? We have experimented with the idea and the New England Tel. & Tel. Co. has had considerable success with open houses at CDO's.

The usual procedure has been to hire a tent and set it up in a vacant lot handy to the CDO equipment building. The conduct of the open house then is little different from that at an attended exchange except, of course, that there can be no visit to the operating room. The interest created has invariably been good.

The New England company often holds its meetings in a form similar to that of the old New England "Town Meeting." Out of such meetings have come many suggestions which the company has adopted.

For example: In the New England area, as you may know, free "time of day" service is not usually given, but now the company gives this service for a period in any area where there has been a power failure and the electric clocks have stopped and need resetting.

Also, as a result of suggestions, the New England company has found ways to get the local telephone people to contribute to community life. In one case, for example, the employes cleared out a company garage to make room for a furniture show by local dealers.



UNLESS we are giving our subscribers good services all of our public relations efforts will suffer.

The "Town Meeting" type of open houses, the Chief Operator visits, and the Chief Operator calling programs have all been found useful in bringing together service complaints.

Equipment Shortages

OF COURSE all of this public relations effort, good as it is, will be practically futile unless we are giving our customers a good grade of service.

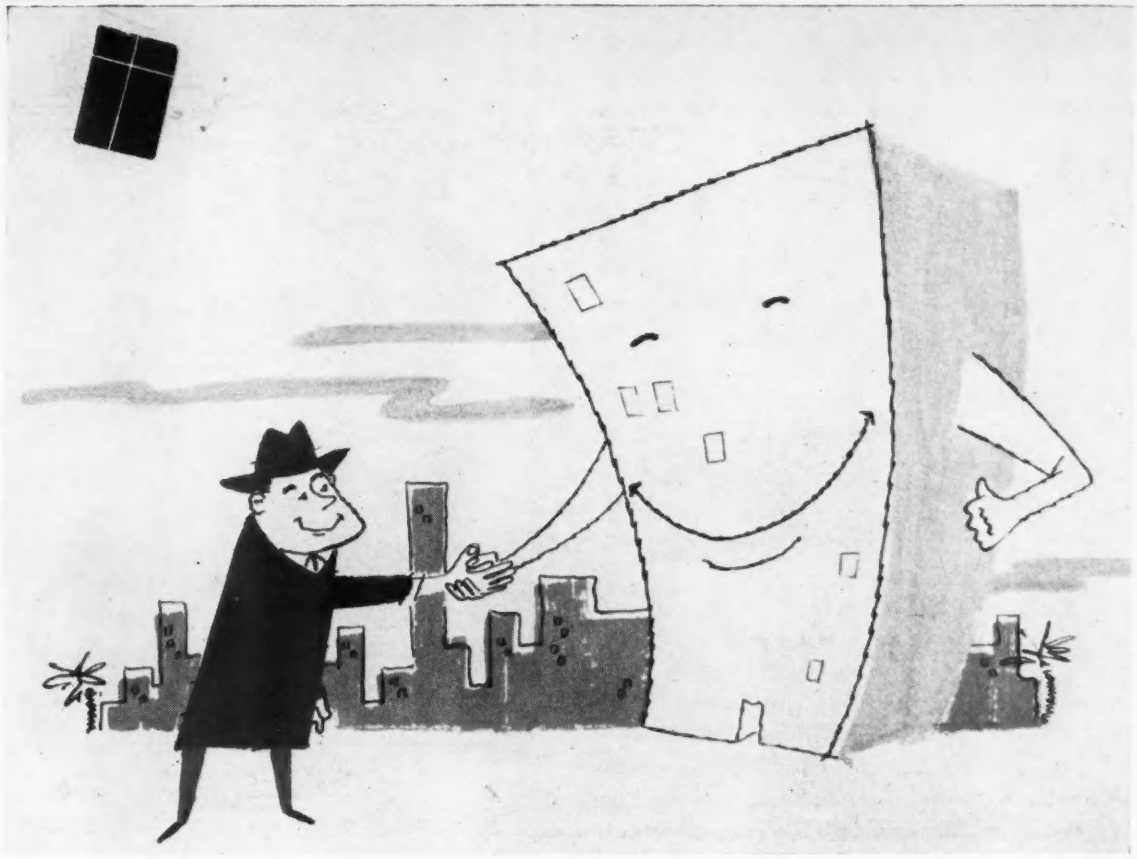
And this brings us directly to the subject of equipment shortages in Community Dial Offices. Because these offices are usually isolated, and because the general public is patient and long-suffering, it is quite possible, even quite probable, that shortages of equipment can occur and become severe before we are fully aware of the fact. Then, where this has reached the point where it is the cause of service complaints and we have to do something about it, we find ourselves in a precarious position because of the length of time that it takes to engineer, purchase, and install additional equipment.

Therefore, it is important that those responsible for the quality of service have some routine means for watching the growth of lines and of traffic in community dial offices and scheduling relief in cases where congestion is indicated. Also, we must assign our new lines and stations in such a manner that we do not create unbalanced traffic loads in the various equipment groups within the office, because unless we have a balance of traffic, we will not obtain maximum effective use out of the equipment.

Records of Traffic Flow

RECORDING the growth in lines and stations is no problem in most of our companies. We have monthly reports of lines and stations available to us and, in

Please turn to page 68



". . . companies, like people, develop personalities . . ."

Public Relations is Personality

By ALFRED J. BARRAN

PUBLIC RELATIONS! Not too long ago these innocuous words, when used in combination, spelled out skulduggery at its worst. Anyone carrying a public relations title was apt to be considered unkempt, unclean and uncouth. A public relations practitioner was envisioned by many people as a charlatan wearing a long black cloak with an upturned collar and an oversized hat pulled down well below the chin. This character was thought to haunt the dark corners of our state capitols getting things fixed for the tycoons of an undisciplined management and labor.

There may be a few public relations people who fit this description, but those of us assigned to General Telephone System corporate public relations responsibilities must conduct ourselves within the same framework of discipline and morality as our fellow employes. My sole purpose in making this point is to clear up in your minds any misconception of the way public relations people work.

The subject of this article is "Public Relations Is Personality." One of the most perplexing problems in writing or speaking about public relations is to determine where to start. It is such a prodigious subject. In this assignment, I find myself much like the young mosquito that zoomed into a nudist camp one day, looked around, and then completely confused, said: "My heavens, where do I start?"

I deplore discussions which start out with definitions, but I think a subject as broad as public relations calls for one. During the past few years, public relations has been defined in so many different ways that it is difficult to remember any one. The best which I have seen is this one: — *"Public relations is the management function which*: (1) *Evaluates public attitudes and de-*

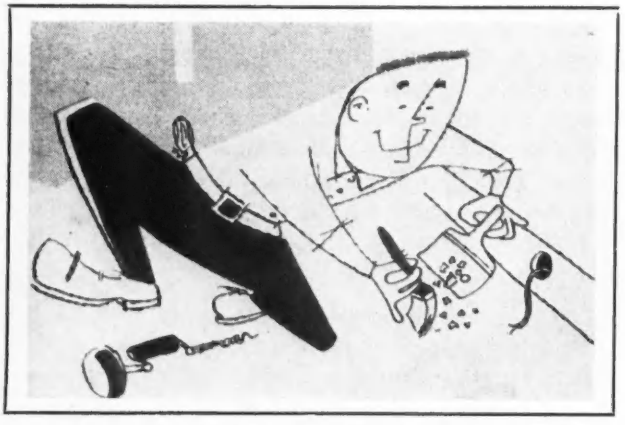
cisions; (2) identifies the policies, procedures, products and services of an organization with public interest; (3) executes a program to earn public understanding and acceptance, and, (4) continually re-evaluates current efforts."

Don't let this high-falootin' definition throw you, because when you read it slowly and analyze each statement, it's quite simple and logical. Moreover, it is important to comprehend public relations as defined because the program at your company should be directed toward this end. Without going through the rigors of giving an example of each of the points in this definition, I would like to crack the line at several places to open up what I think a public relations program is all about.

Like Friends, Like Company

I AM A FIRM believer that companies, like people, develop personalities. This may seem incongruous but from your own experience I am sure you have drawn this conclusion: You select certain people to be your best friends because you like them. There is something about the way they conduct themselves that makes you want to be part of their activities. You like them because they have pleasing personalities. You tune in well with their thoughts and beliefs. They are trustworthy. You know without a doubt their word is unequivocal. When you are in trouble, your friends will give you the help you need. You are confident that when they make a decision or do something which affects you, whether or not you have a part in the decision, the end result will be in your best interests. And most important, you respect them and have an unshakable confidence in their honesty and integrity.

Now let's go back and substitute the word "companies" for people. The first three statements now read: You select certain companies to be your best friends because you like them. There is something about the way they conduct themselves that makes you want to be part of their activities. You like them because they have pleasing personalities. And so it goes . . . The things that influence you in the selection of your friends are nearly identical with the considerations you make in selecting the companies with which you enjoy doing business.



"*. . . the installer who sweeps the floor clean . . .*"

"*. . . you are constantly in focus . . .*"

What are the ingredients necessary to build a pleasing personality for your company? First and perhaps the most important is to furnish good mechanical telephone service. This is the base or hard core on which any public relations program is constructed. I am referring to the quality of service someone using a telephone experiences when he makes a call. Good mechanical service means that the instrument is working properly; the dial switching apparatus is positive in its action; both parties can hear each other without undue strain on their eardrums or vocal cords.

You Are Important

PERHAPS THE type of work you do virtually isolates you from the outside world during business hours. And you never experience the excitement and challenge of talking to a customer during your working day. It would be only natural to think that you have no responsibilities in your company's public relations program. But you are wrong! Every man and woman who might seem to have the prosaic assignment of maintaining and improving the complex mechanical side of the telephone business is just as important to the public relations' effort as his or her counterpart in the public-contact phase of company operations.

Another essential ingredient of building a pleasing personality for your company is the development of a good personality yourself. What type of personality expresses good public relations? In my estimation, it is one which presents the best that is in you to the person you are trying to reach — to make a good

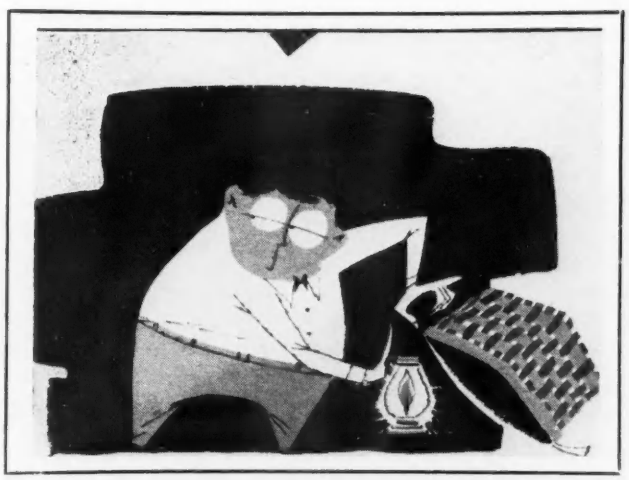
impression on the very first meeting — to approach a stranger or prospective customer as though you have known him for years without offending him, without raising the least prejudice, by getting his sympathy, understanding and good will. These are the ingredients of a gracious personality. Each of us must work diligently at developing this type of personality. For there is absolutely no substitute for personal expression in a public relations program.

Companies Must Be Talkative

DO WE WANT a telephone company to have a talkative personality? I think so. One of the fundamental observations made by Mr. Donald C. Power, president of General Telephone Corporation in analyzing General Telephone System's public relations program a number of years ago was the undisputable conclusion that his organization was hiding its light under a bushel. In other words, System companies were not talking about themselves, so, consequently, only a few people knew General Telephone. Unfortunately, those who possessed the good memories usually recalled irritating experiences rather than laudatory accomplishments. Others observed the existence of the same situation among nearly all Independent Telephone Companies.

How can a company expect to be well thought of, be accepted as a pace setter instead of a laggard, carry on a businesslike financing program unless its name is on the tip of the public tongue? A successful company which does not fulfill this one requirement must be as hard to find as Diogenes' honest man. An astute management will design and execute an advertising and press relations program (to fit the needs of their company) which will create a talkative personality. One caution, however, a talkative company which enjoys the respect of the public must never speak in glib, circus barker type tones but must broadcast its communiques in a clear, concise, confident and authoritative voice.

I hope at this point you are asking, "How can I help create a pleasing personality for my telephone company?" Without being accused of oversimplicity, my answer is: Everything you do on or off the job either



". . . we were hiding our light under a bushel . . ."

". . . he was thought to haunt dark corners . . ."

builds up or tears down the personality you are attempting to present to the public. You are playing the starring role in making your company more talkative. The most aggresive advertising and press agency program only supports your vocal enunciations. To talk about your company proudly and vociferously requires that you equip yourself to do so. You must learn all you can about the policies, plans and progress of your company. You must glean facts and figures from every available source. If your company publishes a magazine, you should read it from cover to cover to increase your knowledge of company operations. Statements in the press, advertising, annual reports, bulletin boards, open houses, etc., are other sources of current information. From these various media you can fortify yourself with sufficient material to carry on an intelligent conversation about your company.

A 24-Hour, All Year Job

BUILDING A personality for your company is a 24-hour, 365-day a year job. If you do not wish to give your company a Dr. Jekyll and Mr. Hyde personality, the same techniques for winning friends during the business hours must be carried forth into your outside activities. Public relations is an around-the-clock operation. The way you answer a question about telephone service at a social gathering has as much impact on what people think of your company as an official response to a customer's inquiry during business hours. *Remember, you are always the telephone company to the other person, whether you are installing a telephone, selling an additional directory listing, repairing a broken dial or joining in a delightful barbeque with the neighborhood gang.* What you say and do in each of these

entirely different situations reflects on yourself and the company you represent.

Recently one of our customers was so thrilled by the excellent performance of one of our repairmen that she wrote a highly complimentary letter. Her message was chock-full of accolades about this man but the most important statement in the letter, in my estimation, was: "More men like Mr. . . . in your service would do more to insure good public relations than all of the paid public relations people, because we, your subscribers, have our major contacts with the 'telephone man'!" This is exactly the thesis I am trying to present. The personality portrayed in this instance was one of friendliness, efficiency and alacrity to serve. To illustrate the point, our film library plays a very important and necessary part in our public relations program. (An average audience of 200,000 people each month receive our public relations lectures, demonstrations, talks and films.) But it will never take the place of our operating people saying and doing the right thing at the right time.

The company driver who stops to let the other fellow go ahead, the information operator who strains her patience almost to the breaking point in locating a telephone number, the installer who sweeps the floor clean after boring a hole for the inside wiring, the switchman who explains to a disgruntled neighbor why a single party line is not available, the revenue accounting clerk who tells her dinner party guests how a telephone bill is prepared, the vice president who speaks before a Rotary Club — each in his or her own way is giving the telephone company a winning personality.

Not An Easy Road

THE ROAD TO good public relations is not easy. Companies which are well thought of and respected have only attained this stature as a result of hard work on the part of their people.

The success of your public relations effort depends upon you and the other people who work for your company. Each of you is contributing in one way or another in building a personality for your company. It is a challenging situation. One that demands your full attention on and off the job. Let's keep this in mind — *You Are The Company* to the other person! You are constantly in focus in the eyes of a very discriminating public! You, within your grasp, hold the success or failure of an integral part of the broad public relations program!

How do *you* measure up as a contributor to the personality of your company?—*Albert J. Barran*

The Author A. J. Barran has been public relations director for General Telephone Co. of California for the past four years. Prior to his present assignment, he was a commercial representative, customer relations and directory supervisor, and general commercial supervisor.

Book Review

"Small Business: Problems and Prospects (General Management Series 184) 42 *pages. "Planning For Growth: Three Company Programs (General Management Series* 185) 62 *pages. "Improving Managerial Performance (General Management Series* 186) 70 *pages. Published by American Management Association, Inc.,* 1515 *Broadway, Dept. TE&M, Times Square, New York* 36, *N. Y.*

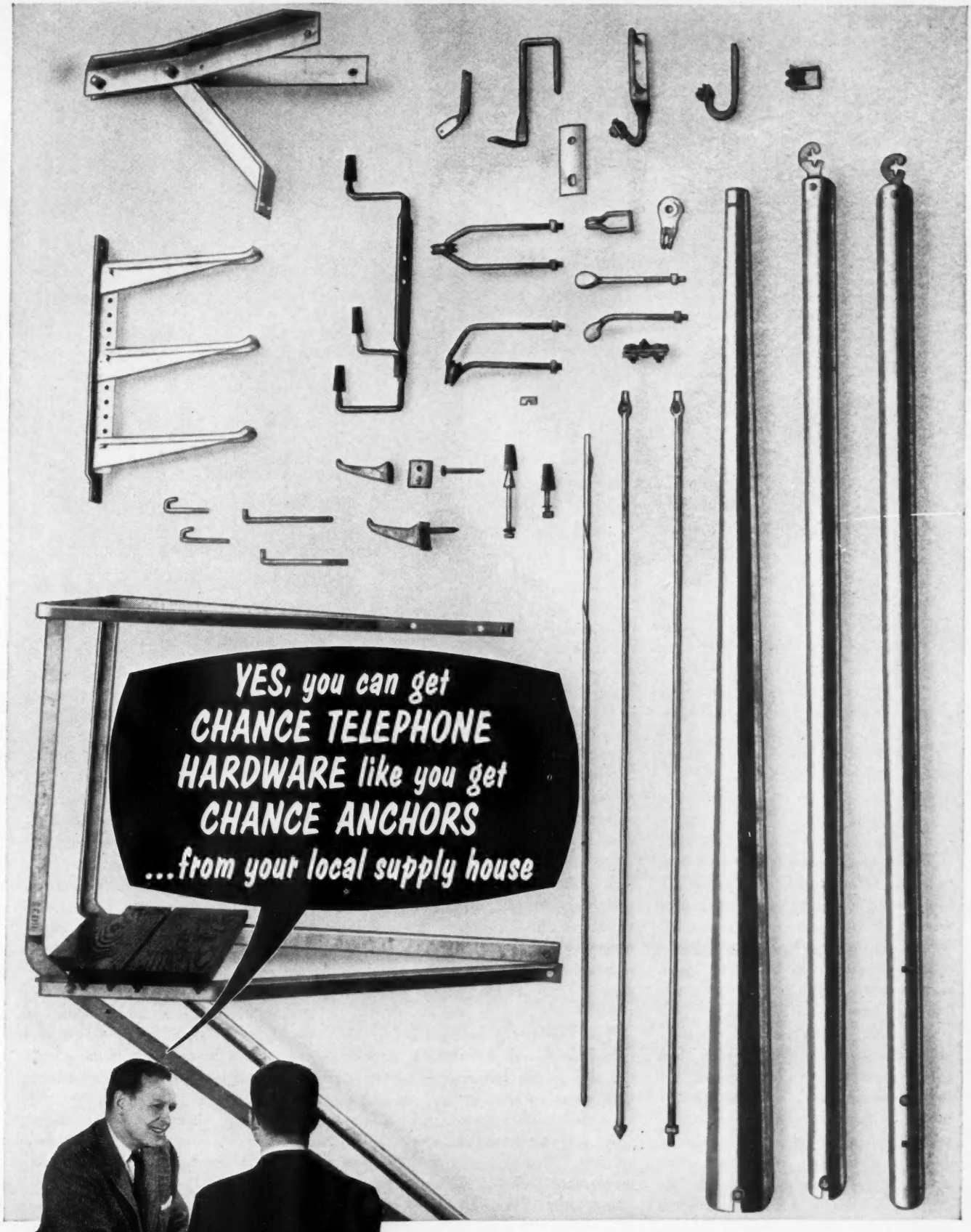
These three new AMA series publications summarize material growing out of the AMA West Coast General Management Conference held last January.

In "Small Business: Problems and Prospects," the President of Jerrold Electronics Corp. describes how his company coordinates long-range planning efforts through its product development program. Other papers discuss: sources of funds available to growth companies, competitive advantages and disadvantages of the smaller business, and prospects for continued prosperity in small business activity.

In "Planning For Growth: Three Company Programs," top executives of Texas Instruments, Inc., describe the company's expansion program: its historical background, development, and achievements. Another paper outlines De Laval Steam Turbine Company's successful program for future growth. A final report analyzes personnel and public relations factors in acquisition and mergers (Federal-Mogul-Bower Bearings, Inc.).

"Improving Managerial Performance" contains practical suggestions for improving the performance of tomorrow's managers. A particularly valuable paper offers a detailed report on motivating the efforts of the research and engineering specialist, whose role in industry is becoming increasingly important. Other papers discuss how to prepare personnel for the impact of technological and organizational change, and how to encourage and up-grade executive performance.

Order from: American Management Association, Inc., 1515 Broadway, Dept. TE&M, Times Square, New York, N. Y.



From anchor to pole top—Chance makes everything you need in guying materials and pole line hardware—available from your local supply house. The Chance line of telephone hardware and guying materials includes thousands of items that meet or exceed industry standards.

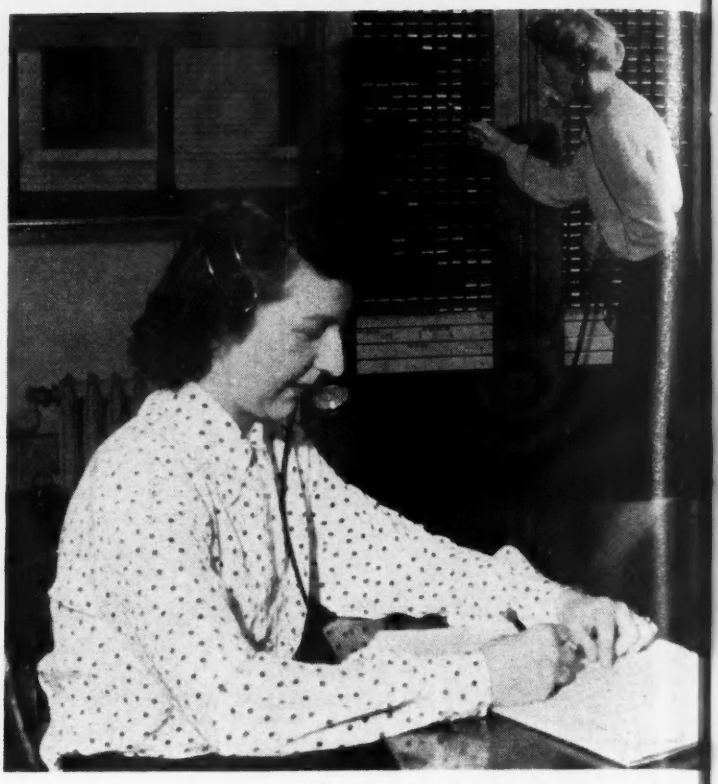
You *know* the quality of Chance Anchors. To get the same high quality in pole line hardware—and the same fast service—ask your local supplier for the full Chance line for all your line construction needs.

A • B • CHANCE CO • CENTRALIA, MISSOURI

How to Keep EVERYBODY HAPPY

By ERNEST W. FAIR

Many personnel problems can be taken care of before they arise by foresighted handling of the employes. Here is a guide to modern methods of handling individual problems — stubborness, disloyalty, prejudices, conceit, dishonesty, and several other problems that confront the boss when he tries to "keep everybody happy."



WHENEVER the toughest business problems — are perching firmly on the average telephone company executive's shoulders that will invariably be the time and occasion for difficulties to arise — within his staff. Not only does he have this urgent business problem to solve but the additional one of straightening out the staff problem and keeping everybody happy.

Many such problems can be taken care of before they ever arise by foresighted handling of the men and women who work on that staff. Others require pre-established methods of coping with them to make certain the right decision is made and staff trouble minimized.

Handling difficulties with the men and women who work under and with one requires a great deal of tact and understanding. Foremost in our thoughts should be the time-proven axiom that when we have difficulty dealing with one individual word gets around quickly and morale drops. One such unsolved problem can in short order upset the whole staff organization.

There are general rules to follow as well as specific methods of handling individual problems in keeping the executive's staff happy. Let's look at some of the first classification which form the foundation stones upon which to build all specific procedures.

Each such case should be studied without emotion and a plan of procedure established in advance. We should never forget that employe's actions are largely influenced by their emotions and feelings. It's a positive must that we should never respond to any such situation in kind.

It is also sound procedure to always eliminate the pressure of feeling upon the employe so that reason can function in handling any given situation and to appeal to positive moods such as loyalty, duty, unselfishness, service, etc., in the employe equally well as the sound practical reasons involved in the situation.

The executive should have established in his department and make certain it is understood by every staff member that he will always be receptive to the expression of reasonable grievances from each man or woman. This gives any individual immediate outlet to his emotions and keeps them from building up into situations which are difficult to handle. Some executives, in order to keep from having a flood of petty grievances on their desks require that they be put into writing. When any of us start to set into writing — thoughts we have been expressing our attitudes usually change a good deal.

Another excellent principle to follow is to be sure the employe is always placed in a normal state of mind in discussing the problem so as to eliminate every possible emotional pressure and make the solution easier. Our approach should also present an evident desire to get at the facts and motives involved and thereby obtain the confidence of the employe as quickly as possible.

In handling open opposition from members of the staff the executive's best cure is prevention. Time works to great advantage in almost everything and we have no exception here. One can gradually alter conditions to strengthen ones position and when it does develop it should be faced — calmly and intelligently. When such opposition cannot be dissuaded dismissal has to be followed in order to hold the rest of the staff in line BUT this should always be done impersonally and courteously so that no anger or rancour is ever demonstrated.

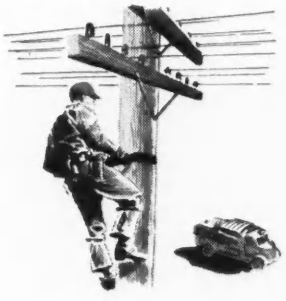
Handling undercover opposition calls for delaying action until one is certain of the opposition and then never responding in kind. Some times rumors are purposely brought to the executive in order to influence his attitude. They should be considered with the greatest caution. Deal directly with the persons involved and

The world of science behind EXIDE-MANCHEX BATTERIES

Being interviewed is J. P. Malloy, Chief Control Engineer. Shown at lower left is a positive plate from an Exide-Manchex Battery.

"High purity lead prolongs battery dependability"

At the Exide Laboratories—**Reporter:** Just exactly how pure is the lead in Exide-Manchex positive plate buttons, Mr. Malloy?



Malloy: There is less than one-hundredth of 1% active impurity.

Reporter: How do you insure and maintain such a high degree of purity?

Malloy: We test every new batch of lead here in our laboratory before we approve it for use.

Reporter: How does this high purity lead extend battery dependability?

Malloy: It converts to active material at the proper rate. Over years of use, these Exide-Manchex Batteries retain their capacity to provide full power when needed.

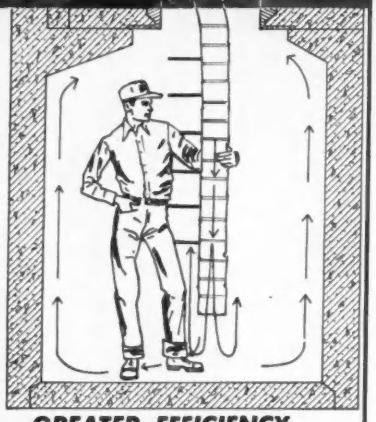
Reporter: Obviously, this is an important feature of Exide-Manchex Batteries.

Malloy: Yes it is. But it's only one of the many engineering details that contribute to their long life and high performance.

Note to battery users: Whenever you order batteries for float or cycle service in stationary applications, be sure to specify Exide-Manchex. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

THE ELECTRIC STORAGE BATTERY COMPANY Exide®

Ventilate and Heat
Your Manholes with
Mo Pe Co
Ventilating Heaters



GREATER EFFICIENCY
INCREASED SAFETY
BETTER PRODUCTION

300 to 800 CFM fresh air in summer, heated fresh air in winter. 160 watt generator attached provides current for lighting manhole simultaneously.

MODEL PE-G
Portable, PE-G weighs 70 lbs.
Electric models also available.

Write for illustrated brochure on complete line of our products.

Select Distributorships
Still Available

Morrison - Pelsue Co.
Dept. 9
2256 So. Delaware St.
Denver 23, Colorado

apply strict measures but keep them fair and devoid of any emotion whatsoever.

Here are the more common staff difficulties with which the average executive may be confronted and the easiest methods of handling each.

Sullenness: — Find the reason before taking any action. Be careful not to react in kind. If it is personal anomosity show him that as long as he does his work satisfactorily he still has a job. With those possessing deep seated traits who are still doing their work efficiently — forget about it — that's part of any executive's load to carry.

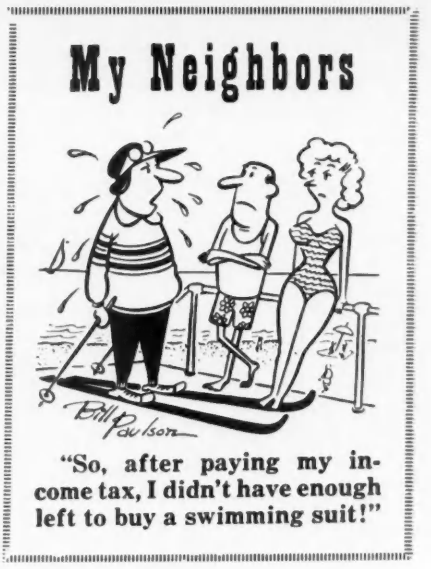
Stubbornness: — If the trait is a basic part of the individual's character make up seek out other approaches which will bring about responses without arousing this stubbornness. Usually such an individual needs to be shown what discipline is, why it has to exist on the staff and why he must conform.

Discourtesy: — Make certain, before taking any action, that such attitudes on the part of the staff member have not been aroused by a similar or other discourtesy on your part in the past. Otherwise when it first happens it pays to completely ignore the act. If it continues then he or she must be shown that such acts, while they mean nothing to the executive as an individual, destroy organization and for that reason cannot exist. Some times these are brought on by breakdowns mentally and physically or overwork on the part of the individual.

Disloyalty: — Make sure first that the employe action really is a disloyal one and then if it is there is only one course of action — to dismiss that person for disloyalty has no place in any business organization today whether it be to the executive involved or the company itself.

Prejudices: — This condition usually exists in individuals of limited mentality or background so we have just about one single avenue of approach and that is to patiently present our ideas until they are absorbed.

Conceit: — Such a trait in an individual can be one of the most destructive forces the executive can have operating within his staff. It is usually an over estimation on the part of the individual as to his or her abilities. It is best procedure to readily agree with the person that he or she possesses unusual capabilities but see to it that they are given enough additional work so that their daily effort equals that of other members of the staff.



"So, after paying my income tax, I didn't have enough left to buy a swimming suit!"

Dishonesty: — Where this has occured and is obviously an action resulting from the individual's definite character traits the protection of company interests should be the executive's only guide. Where this is not the case removal of temptation may often handle the problem to the advantage of the company.

Immorality: — This is a delicate problem which must be approached with the greatest of care for it is often used by individuals to slander someone else they dislike for other reasons. Where guilt is proven then dismissal is a must to preserve staff harmony.

Worry: — Uncertainty makes worries and in turn can render a good staff employe useless. Where the condition is obvious the executive, if he wishes to restore that individual to former usefulness, has to take time out to locate the trouble and help the employe find a solution.

Grief: — This isolated employe problem occurs only infrequently but when it does calls for immediate handling to maintain the usefulness of the individual. It calls for a receptive attitude on our part and sincerity in our sympathy. Finding work in close proximity to others helps to bridge the gap quickly. Any solution must be based on relieving the individual's mind and turning it toward constructive action.

Irresponsibility: — Responsibility has to be cultivated. Where it has not as yet been developed in a new staff employe it is the executive job

to supply the educational measures which will teach such responsibility. Primarily this consists in developing a true appreciation of the importance of each individual's work.

Unreliability: — When this arises the employe should be warned that it cannot continue simply because it destroys the efficiency of everything that is done and adds burdens to the regular jobs of everyone else.

Dullness: — We cannot very well criticize an individual for being habitually dull or stupid and there is seldom much we can do about such a situation except possibly a change in job or work assignments. Often times this solution enables the executive to retain an individual unsuited in one spot but very much at home in another.

Lack of Perserverance: — This usually comes about when the individual has been at a job for a long time and has begun to lose interest in his or her work and particularly so where there is no obvious evidence of accomplishment in what is being done. They simply have to be shown the goals they are striving for and attaining, distant though they may be.

Lack of Initiative: — Usually this exists solely because members of the staff do not understand that it is desired. In many cases it is demonstrated simply because a fear exists that any such initiative on the part of a staff member will be resented by the executive himself. Simply showing the people on our staff that we have no such attitudes will handle this problem.

Religious Difficulties: — Such problems usually occur outside of the business. They can create a lot of trouble which seriously effects efficiency. Trying to solve them by discussion of religious creeds is a hopeless maneuver. We must make it evident to everyone that such differences in beliefs have no place in the business.

Nationality Differences: — The best step to take is to so intermingle members of the staff that no one group can assume importance through numbers alone. It is often a good idea to select the people who are best fitted by such racial characteristics for a certain type of work and favor them for use in a given department, varying the dominating nationalities in the different departments of the company.

Social Differences: — Make it a company rule that no group has any influence within the firm on the work to be done. Let employes know that you consider such assets valuable in their personal lives but that only one thing counts in the office — the individual's efficiency at his or her own job.

Family Problems: — Employes should know from the start of their jobs that family problems must be kept outside of their work and that the executive does not consider it part of his executive task to handle these for the people on his staff. When they intrude to the point of disrupting the whole organization the employe should be given to understand the damage being done and the end result which will follow unless correction is made immediately.

Wage Difficulties: — These usually arise by one having raised false hopes in the minds of individual employes. The easiest way to handle the individual beset by the idea that he or she is underpaid is to have them make a personal analysis of the known requirements for a larger salary and then balance their own assets against these. — *Ernest W. Fair.*

Four Farms Selected For Gen. Tel. Experiment

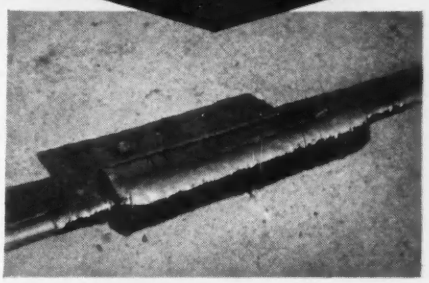
T. A. SAUNDERS, president of General Telephone Co. of Mich. announced that his company is presently conducting a 12-month farm research project which will provide complete urban telephone service for four Michigan farms.

Four farms in the Southwestern Michigan area have been selected for the research project and equipment installations are nearly completed. Saunders stated the farms were selected in cooperation with local County Agricultural Agents.

In commenting on the rural research plan, President Saunders said, "We want to learn all we can about the present and future telephone requirements of farm families. To do this, we will equip each farm with telephone communication equipment which will include extension telephones in the home and service buildings, outside telephone bells, special 'hands free' instruments and intercommunication sets. . . ."

HIGH-QUALITY PROTECTION AT LOW COST

For PREVENTIVE MAINTENANCE On Conduit, Cable, Etc.



Specify

TAPECOAT®

...The Quality Coal Tar Coating in Handy Tape Form

For your preventive maintenance program, you need the best possible protection at the lowest possible cost.

Since 1941, TAPECOAT has proved its superiority in combating corrosion on underground lines, conduit, cable, splices, etc. This quality coal tar coating in handy tape form resists moisture, acids, alkalis, soil stress, electrolysis, chemical fumes, salt water and other severe abrasive and corrosive conditions.

TAPECOAT is self-bonding—simple to apply by spiral wrapping with the use of a torch. No foreign adhesives—no trained help required. Through its high quality and continuing protection, it cuts maintenance and replacement costs.

Low-cost TAPECOAT comes in rolls of 2", 3", 4", 6", 18" and 24" widths—sized to the job.

Write for brochure and prices

The TAPECOAT Company
Originators of Coal Tar Coating in Tape Form

1547 Lyons Street
Evanston, Illinois

Sales and Service Offices in Principal Cities

ANOTHER
LEICH
EQUIPMENT AND SUPPLIES FOR THE TELEPHONE INDUSTRY
RUSH
LEICH
A MEMBER OF THE GENERAL TELEPHONE SYSTEM
GENERAL SYSTEM
ONE OF AMERICA'S GREAT COMMUNICATIONS SYSTEMS

ER HAPPY CUSTOMER!

the quality was right-

the price was right-

the delivery was right-

and <u>every</u> single item was

ordered from <u>one</u> source!

--LEICH for supplies

You can depend on Leich supplies — they are all made by famous manufacturers. Each and every one has been proved on the job. For your further protection, *everything* is fully guaranteed.

Our customers know that Leich's prices are competitive with all . . . and less than many. Then too, you save money by using the best tools and materials.

Your orders are handled promptly and efficiently by experienced people . . . filled exactly as you have requested. And . . . delivery is made *where* and *when* you want it.

Everything you need—tools, hardware, wire, cable, protection equipment, aluminum telephone booths, Electronic Secretaries can be obtained from your Leich warehouse. By stocking a complete selection, Leich is always able to fill your immediate needs.

Send your next order for supplies to Leich—and you too will become a happy customer! Let us know if you haven't received our catalog.

LEICH SALES CORPORATION, 427 WEST RANDOLPH STREET, CHICAGO 6, ILLINOIS

PACIFIC COAST: 11401 WEST PICO BLVD., LOS ANGELES 64, CALIFORNIA SOUTHWEST: 1227 SLOCUM STREET, DALLAS 7, TEXAS

SOUTHEAST: 5126 SO. LOIS ST., TAMPA 11, FLORIDA

manufacturers of telephones, switchboards and related apparatus since 1907

One-Man Aerial Tent

By E. L. ALFORD*

PEAK-ROOF wall tents are familiar sights along aerial telephone cable routes, for they protect men and equipment from the weather while construction and maintenance work is in progress. However, since many of these operations can be performed by one man, and since the peak-roof tent is too bulky for a one-man job, a new light-weight aerial tent has been provided for the Bell System.

This item, designated the "C Ladder Tent" is an adaption of one that originated in the Illinois Bell Telephone Company. It is used in conjunction with the standard extension ladder, the upper end of which is suspended from the cable-supporting strand by a wire-rope sling. A small wood platform attached to the ladder rungs at a convenient height permits the workman to sit or stand between the cable and ladder within easy reach of the cable.

The tent has a collapsible frame of three flexible steel strand bows, attached at the ends to clamps for securing the frame to the cable suspension strand. Over this frame, a fire-, water-, and mildew- resistant canvas cover is sewed in place. The assembled tent, which weighs only 22 lbs., can be collapsed into a roll sufficiently small to permit safe handling by one man.

In use, the workman first places the extension ladder with its associated support and platform at the desired location. Then, while sitting on the platform and secured to the strand by his safety strap, he hoists the collapsed tent by means of a handline and attaches the frame clamps to the suspension strand. Because of the flexible nature of the tent frame, the spacing of the clamps may be adjusted to provide suitable working space. After the frame clamps are tightened, the frame of the tent is opened and the cover allowed to drape from it. The two outer bows of the frame, being hinged to the clamps, fall to positions permitted by the cover, while the center bow, which is fixed in an approximately vertical position by the clamps, provides the necessary head room. The rear of the cover is draped over the upper end of the extension ladder, and the ladder thus provides additional support for the cover. To give stability to the erected tent, guy ropes attached to the bottom of the cover are tied to the ladder rungs. The side openings of the tent are closed by using interlaced rope loops provided for the purpose, and in cold weather the bottom of the tent can be gathered about the ladder by means of the rope running through the bottom hem of the rear apron. In warm weather the front apron of the tent can be rolled up and secured with short ropes running through grommets just below the front bow.

SIDE VIEW of ladder tent, front apron raised.

To remove the tent, the workman unlaces the side openings, removes the guys from the ladder, and gathers the cover around the frame as it is collapsed. He then ties the tent in a bundle with the front guy ropes. Finally, he releases the clamps and lowers the folded tent over the strand to permit attaching the handline for lowering the tent to the ground. — *Reprinted from the March, 1957, issue of "Bell Laboratories Record."*

Mr. Alford is a member of the Outside Plant Development Department, Bell Telephone Laboratories.

Book Review

"Selection of Management Personnel." Published by the American Management Association, Inc. 1515 *Broadway, Dept. TE&M, Times Square, New York* 36, *N. Y.*, 2 *volumes, boxed.* 892 *pages + index.* $15.00.

The widening search for management talent requires a thorough re-evaluation of existing selection methods. Approaches to management selection based on dated information and erroneous assumptions must be replaced by new techniques which reflect modern management's changing attitudes.

"Selection of Management Personnel," AMA's important new two-volume handbook, is the first publication to report fully and authoritatively on these new selection techniques.

Holding Employe Interest In Safety

By RICHARD ALLEN

"THIS has been one of those days," the company executive told his wife. "A month ago we spent a lot of money and time working up a good safety program . . . held meetings . . . gave instruction . . . did everything we could to put it over . . . and do you know what? Already the men have almost forgotten the whole thing!"

The program was excellent. It had been carefully thought out and planned, except for one thing . . . no effort was made to adapt it to the specific thinking of the employes and make each man an important part of the program!

Many good safety programs have floundered on neglect of this one point which should be an even more important part of planning than drawing up the general program itself, for no safety program in any telephone company operation can ever be any better than the employes make the program.

We've checked into several safety programs where employes wholeheartedly took part in the project and put it over. In paragraphs to follow are summarized the important ingredients of those successful programs. Each one can be adapted to any telephone company operation, large or small, regardless of the size of the staff.

Safety Education Has Its Limits

THE MOST important factor we have to keep in mind is that safety education has its limits when applied to employes. Generalities do not produce results. In nearly every case they leave the employe indifferent and disinterested. The program itself must be loaded with facts showing *how* the *individual employe can put safety to his own use on his own job.*

Mass safety education is satisfactory only when devoted to an effort to impress employes with the need for greater attention to safety and what it will mean to each individual.

Experienced safety education executives point out that the education

COTTON
Serviceable for all around uses. Standard everywhere.
NYLON
Smooth texture, easy to handle. Preferred for switchboard use.
NEOPRENE
Very popular because easy to keep clean. Moisture and grease proof.

Runzel
CORDS
the WORLD'S FINEST
...for every purpose!
...for every instrument!
Take your choice—Neoprene, Nylon or Cotton. They're all high quality cords made in accordance with Runzel high standard of quality. We carry large stocks of cords to meet every need. Our geographical location means Quick Service.

RUNZEL CORD & WIRE CO.
4723 W. MONTROSE AVE. • CHICAGO 41, ILLINOIS

RELIEVE YOUR GROWING PAINS

with General Cable Distribution Wire!

LOW-COST DISTRIBUTION WIRE

HELPS YOU EXPAND YOUR LINES

QUICKLY, EASILY AND ECONOMICALLY!

If your company is operating in a rapidly expanding community, distribution wire provides a quick, economical way to extend open wire lines or cable plant.

Here are some of the money-saving advantages of this wire. On new construction, it can be attached directly to the pole. For increasing existing pole line capacity, it can be attached to the underside of a crossarm or directly to the pole. Staggered pair lays minimize crosstalk. Long cabling lays permit easy attachment of support wire to pole.

The steel support wire has a breaking strength of 1800 lbs. and both the support wire and copper conductors are polyethylene insulated. Each of the conductors is again protected by a jacket of fully color-coded polyvinyl chloride. This provides all-weather protection and quick identification. We stock various sizes of distribution wire plus the associated hardware in all our warehouses—to help you get your job done *fast!* For complete information, call your Automatic representative or your nearest A. E. Sales Corporation warehouse.

DISTRIBUTION WIRE

	URBAN	SUBURBAN	RURAL
Pair	16	6, 11, 16	1, 2, 3, 4, 5, 6, 11, 16
Size	24 AWG	22 AWG	19 AWG

Automatic's 5 friendly warehouses:

George Ferguson, Mgr.	"Michie" Hester, Mgr.	Ed. J. Chok, Mgr.	Fran Batcher, Mgr.	Robert Miller, Mgr.
Northlake,	2915 Moore St.	2360 N. W. Quimby St.	158 Corliss Avenue	2021 Main St.
Illinois	Richmond 21, Va.	Portland 10, Ore.	Johnson City, N. Y.	Kansas City 8, Mo.
Fillmore 5-7111	Tel. 6-9280	CApital 3-7244	Binghamton 7-8507	HArrison 1-4720

AUTOMATIC ELECTRIC

A member of the General Telephone System—One of America's great communications systems

GENERAL SYSTEM

KLEIN

preferred by linemen
. . . electricians

When it comes to leather goods for linemen or electricians, the name Klein today stands for the highest in quality as it has since the first wires were strung.

In Klein-Kord, too, Klein offers to industry the first specially woven fabric for safety straps—a fabric designed to permit the use of a tongue-type buckle without the risk of slitting or ripping under severe strain.

Now in Nylon Klein-Kord safety straps Klein still leads with the newest in safety equipment specially designed for use by utilities wherever power or communication lines are strung.

Write for Free Tool Guide
A free copy of the new Klein Pocket Tool Guide will be sent to anyone interested on request.

Ask your supplier

Foreign distributor:
International Standard Electric Corp., N.Y.

Mathias KLEIN & Sons
Established 1857 — Chicago, Ill., U.S.A.
7200 McCORMICK ROAD • CHICAGO 45, ILLINOIS

plan must not only teach the merits of safety but employes must be *told what specific dangers* in their own line of work should be guarded against and *what specific things they can do themselves to avoid injury.*

It should also be kept in mind that the process requires discipline in mind and body and that this must be one of the primary points of education. Until the importance of discipline has been impressed on employes, they will never give proper attention to specific applications of safety in their own jobs.

The educational program is always more successful when an effort is made to arouse the interest of foremen and department heads prior to presentation of the program to the individual employe. The foreman is always in the best position to do the actual educational job. However, it must be kept in mind that the average company superintendent or foreman is usually so busy on other problems that a specific effort must be made to convince him that his own special attention to safety is required in the program.

Experience has shown that this can be accomplished much more successfully when the foreman, superintendents and department heads are actively consulted during formation of the safety education program on the material it should include and how the program should function.

The most successful safety education programs have always tied the supervisors closely to the work. Four principle parts of supervisory participation are usually included.

(1) *Asking for the assistance of supervisors in determining the standards for guarding equipment.*

(2) *Requesting the supervisors to give specific suggestions for formulating the safety rules as they will be set up for each supervisor.*

(3) *Fixing the supervisors responsibility for (a) investigation of all accidents and (b) making recommendations for the prevention of similar accidents.*

(4) *Giving supervisors the responsibility for reviewing all safety suggestions and records and deciding upon their practicability.*

Once this has been done there are many steps management can take to bring the safety program closer to employes and generate their co-operation.

In one company, for example, where a program of mass meetings had been ineffective and the safety education venture had come to a virtual standstill, it was found that emphasis placed on specific safe practice rules re-kindled that interest and brought results.

Education of individual workers progressed to a satisfactory level after this was done because the new safe practice rules applied directly to the work of the men. Then, a supervisor's report of accident investigation was developed and put into use. The supervisor was required to locate the essential facts and make use of them. This step made supervisor co-operation in safety education automatic.

In another organization the conference type of safety education was decided upon. In addition to the regular program periodic meetings of foremen and key workers in each department were held. The subjects were selected in advance of each meeting and employes were urged to take an active part in the discussions.

Three general topics were selected: (a) The principles of accident prevention; (b) major causes of departmental accidents; and (c) what corrective action was to be taken.

Here again a lagging safety education program suddenly sprang to life and secured full employe co-operation. This end was obtained because the individual's part in the program was strongly encouraged. Set speeches were avoided and each meeting was

TIMELY TIP

IN SOME offices TELEPHONE ENGINEER is routed through as many as 20 people and as a consequence the copies often become "dog-eared"—torn and mutilated. Quite often too some of the important features have been clipped which must be disturbing.

If your TE goes through the obstacle race before you receive it why don't you subscribe for your own personal copy?

Costs only $4 per year and is delivered to your desk fresh and clean twice each month. Use convenient subscription order form on page 111.

conducted as a round-table forum. The net result was a thoroughly workable safety program — one in which each employe had a particularly keen interest.

In a third organization, where the original generalized safety education program was obviously getting nowhere, results were obtained by putting emphasis on safe practice rules. After a series of discussions with specific groups of employes a new set of rules was formulated from the suggestions and ideas the employes had offered in the meetings. These were mimeographed and released in pamphlet form for the employes to take home and study.

Another program was made particularly successful when the safety director added an unusual feature in the form of a safety playlet he had written in co-operation with the publicity department. The playlet focused attention on a "dump" workman who did everything wrong. A check of the results showed that the average employe remembered more of the specific safety ideas than he had following a series of cut and dried lectures which offered the same suggestions.

This particular playlet was even more successful because the men themselves played the roles. Following presentation of the playlet another successful step was taken:— selected key men were chosen to set the example. Each man was selected because he was respected by other workers. It was found that what he said and did on the job forcefully impressed other workmen because they usually looked up to and respected his good judgement.

Safety suggestion boxes have also been used in many organizations to increase employe interest in the safety education program. Monthly cash prizes for the best suggestions have proved an incentive. Self education in such cases is particularly effective because it virtually forces employes to think about safety. No better results can ever be attained than when this has been accomplished. Failure to arouse self education in the program is usually a guarantee that the management is wasting money and effort.

"No Accident" contests work along the same line. Contests create rivalry between departments. This arouses the individual interest of every employe in safety.

No safety program in any department can ever approach even mild success without the full cooperation of each individual employe.

Obtaining that cooperation should be as important to the planning of the safety program as any other phase and should be so established when the first step is taken toward drawing up a safety education program.

When a program, during its planning stages, is aimed at offering free employe cooperation, then—and then only—will the day come when an executive stops complaining to his wife about the indifference of the men to the "brain child" into which he has put so much sweat and tears. If the program is aimed rightly when it is created our executive will be bringing home daily reports on how well the men are taking to the idea and putting it over!

S. W. States Rejects Brady Rate Offer

AN OFFER by the Brady, Texas, city council to raise telephone rates in Brady 20 per cent has been rejected by Southwestern States Telephone Co.

The rejection came in a letter to the council from A. J. Lacy of Brownwood, West Texas division manager. Lacy said 20 per cent would give the company a return of only 2.61 per cent of its investment in the Brady exchange. The company has been asking for increases to provide a 4.95 per cent return.

The company's proposed rates would increase 1-party business service from $6 to $9.50 per month and a 4-party residence $2.25 to $3.75.

New Rates Announced By General of S. W.

THE FOLLOWING rate increases became effective in exchanges of General Telephone Co. of the Southwest during August:

Exchange	Effective Date	Old Rate	New Rate
Dilley, Texas	Aug. 6, 1957		
Dial —Extended Area Service 226 Stations	Bus.-1-Pty.	$7.00	$ 9.50
	Bus.-2-Pty.	5.50	8.00
	Res.-1-Pty.	4.00	5.00
	Res.-2-Pty.	3.25	4.25
Bonham, Texas	Aug. 11, 1957		
Dial 2815 Stations	Bus.-1-Pty.	7.50	10.00
	Res.-1-Pty.	4.00	4.75
	Res.-2-Pty.	3.50	4.50
	Res.-4-Pty.	3.00	3.50

Wire-Saving Snubbing Action . . . with this

KEARNEY

SNUB-R-GRIP DROP WIRE GRIP

On poles or buildings this free-swinging drop wire tie provides a "snubbing" action stronger than the rated strength of the wire. This is possible because the unique spiral grip distributes the pull over a long length of wire. KEARNEY Snub-R-Grips are quickly installed and easily salvaged. Just wrap the wire (twisted pair, parallel or synthetic-jacketed) into the grooved spiral. A portion of the groove's inner surface is specially coated to give maximum non-slip grip . . . without damage to insulation.

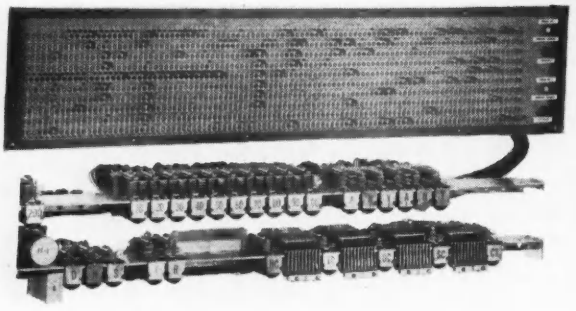
For Better Construction . . . Safer Maintenance

Specify 268

KEARNEY PRODUCTS

4224-42 Clayton Ave. • St. Louis 10, Mo.
Canadian Plant: Guelph, Ontario

NOW AVAILABLE *at nominal cost*



Sectional View of Computer Intercept Unit for 100 Line TPL or 1,000 Station TPS Installation.

Advanced technique of printed circuity is used in this equipment. The Magnetic Impulse Counter is the basic unit of the computer register circuits, supported by standard telephone relay apparatus of recognized manufacture.

Congratulations to the U. S. Independent Telephone Association and its thousands of member companies on this 60th Anniversary Year.

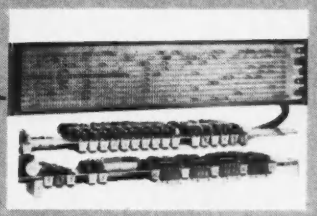
Other UNIVERSAL Telephone Equipment:
DIGIT ABSORBER for 2-5 Numbering
Code-to-Selective RINGING CONVERTER

INDEPENDENT

UNIVERSAL 100% COMPUTER INTERCEPT

DIRECT DISTANCE DIALING
DEMANDS 100% INTERCEPT

"YOU HAVE DIALED A NON WORKING NUMBER"



Buy the ultimate requirements in intercept equipment. Not "merely adequate" . . . not 20% . . . not 99% . . . but 100% intercept is the ultimate requirement for direct distance dialing. Universal Computer Intercept offers 100% intercept at nominal cost, compatible with any make switchboard, and easily inserted anywhere in the dialing train. The unit is completely factory wired and may be installed by regular maintenance personnel. Simplicity of design lends to minimum maintenance requirements.

CHECK THESE ADDITIONAL BENEFITS OF UNIVERSAL COMPUTER INTERCEPT

- ✓ **Increase Schedule A Commissions.**
  Your TPL will have the effective features of TPS intercept *to add to* your toll settlement.
- ✓ **Increased Revenue through Increased Trunk Usage Time.**
  Reduce the repeated attempts on long-haul toll calls that keep valuable toll switching apparatus tied up.
- ✓ **Savings in Time and Material in Adding Intercept Service to your Operation.**
- ✓ **Intangible Advantages.**
  - Immediate intercept of calls to busy lines for non-working or changed numbers on these lines.
  - Intercept of incoming toll calls by request of customer or commercial department.
  - Many others of commercial value.

TELEPHONE DIVISION

UNIVERSAL
CONTROLS CORPORATION
OFFICE AND PLANT – CARROLLTON, TEXAS
MAIL ADDRESS – P. O. BOX 13122, DALLAS 20, TEXAS

KELLOGG
A DIVISION OF IT&T
6650 S. CICERO, CHICAGO 38, ILLINOIS

SALES OFFICES

6000 W. 51ST. ST. CHICAGO 38, ILL.
4501 TRUMAN ROAD KANSAS CITY 1, MO.
23 BRODERICK ROAD BURLINGAME, CALIF.
410 N. SYNDICATE AVE. ST. PAUL 4, MINN.
1515 TURTLE CREEK BLVD. DALLAS 7, TEXAS
1555 WEST FOURTH STREET MANSFIELD, OHIO
1594 SOUTHLAND CIRCLE, N. W. ATLANTA, GA.
165 PROSPECT STREET PASSAIC, N. J.

MAIL THIS COUPON TO THE NEAREST ADDRESS

Gentlemen: I am interested in your Universal COMPUTER INTERCEPT.

NAME_____
POSITION_____
FIRM_____
ADDRESS_____
CITY_____ STATE_____

E-11-15

MARIE JELLISON, until Sept. 28, 1957, Traveling chief operator for United Telephone Co. of Indiana, Inc., Ohio Telephone Service Co., and Jasper Telephone Corp.

"I'll Be There"

As Told to GEORGE FORBES*

"The words, 'I'll be there' were said, not once but countless times . . . and they came straight from the heart of a smiling, tireless, little lady who personifies all that's praiseworthy in the telephone operator's code . . . ."

"CANCEL my hotel reservation for tonight, and tell your operator to stay home until she's well. *I'll be there.*"

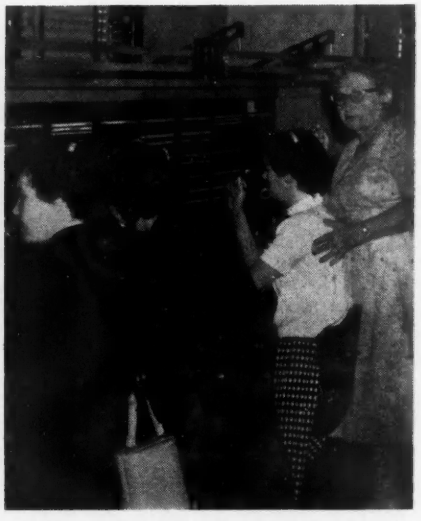
Possibly the most welcome words any distraught exchange manager ever heard. They were said, not once but countless times . . . . and they came straight from the heart of a smiling, tireless little lady who personifies all that's praise-worthy in the telephone operator's code.

During the hectic years of World War II trained help was always at a premium. Operators matched their own loyalty and skill in the unequal struggle with long hours, mounting traffic and inadequate equipment . . . . . and often came out second best. But somehow the lines were kept open; when all other means failed, there was *the little lady with the big heart.*

If you live in northern Indiana or western Ohio you know our "little lady" . . . . . *Marie Jellison,* traveling chief operator for the 96 exchanges of the United Telephone Company of Indiana, the Ohio Telephone Service Company, and the Jasper Telephone Corporation. Certainly many who now hold important positions in the industry count themselves lucky that Marie was around to shoulder part of the load when the going was tough. What may not be so well known is that back in 1910 when she started her career, she had two job offers on the same day; only a chance flip of a coin made her a telephone operator rather than a soda fountain clerk!

Although chance played a role in the choice of a career, she has never flinched from the full impact of her

47 YEARS OF DEVOTED SERVICE: — MARIE JELLISON, center, is honored by her many friends and associates in the United Telephone Co. of Indiana. On the left is her boss, JACK CLUEN, general traffic manager; on the right, MISS MAJORIE MAY, who now takes over the job of traveling chief operator for the 96 exchanges.



When Warsaw, Indiana, cut over to XY-Dial and customer DDD this August, MARIE JELLISON had a real challenge in training operators for their new role.

ANYONE CAN INSTALL FLEXIDUCT

THE FLEXIBLE FLOOR DUCT

Flexiduct Solves Those Over-the-Floor Wiring Problems Neatly and Easily

NOW . . .
A Brand New
QUARTER ROUND
For Baseboard Installations Also Available

- **2 Sizes to fit your needs**
- **Black Rubber or Brown Plastic**

The versatile floor duct that solves over-floor wiring problems quickly and effectively, with adequate protection from sweepers, mops and equipment on casters. Installation is easy and permanent. You just fasten Flexiduct in place with its own special cement. There's no drilling or necessity to use screws or fasteners. Flexiduct's flexibility allows it to adhere evenly and securely to all types of floor surfaces yet it can be taken up without marring floors. For installations ranging from 2 conductors to 25 pair switchboard cables.

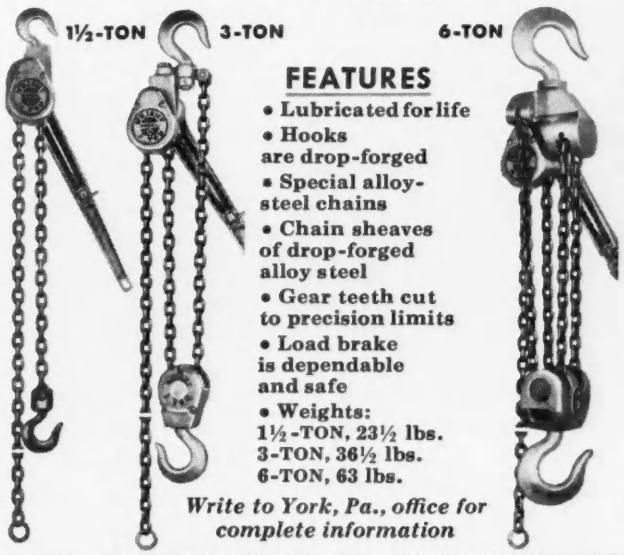
Write for Circular 1156-A

BUCKEYE TELEPHONE & SUPPLY CO.

P.O. Box 5707 **Columbus 21, Ohio**

NEW WRIGHT Type "C" Pull-A-Ways

THREE SIZES—1½, 3 and 6-Tons



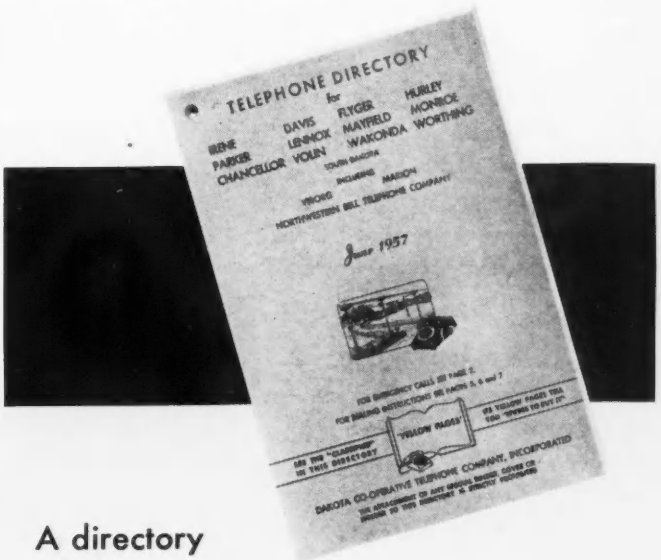
FEATURES

- **Lubricated for life**
- **Hooks are drop-forged**
- **Special alloy-steel chains**
- **Chain sheaves of drop-forged alloy steel**
- **Gear teeth cut to precision limits**
- **Load brake is dependable and safe**
- **Weights:**
  1½-TON, 23½ lbs.
  3-TON, 36½ lbs.
  6-TON, 63 lbs.

Write to York, Pa., office for complete information

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.



A directory
for the
Dakota Co-Operative Telephone Co., Inc.,
South Dakota

printed by

R. R. DONNELLEY & SONS COMPANY

350 East Twenty-second Street, Chicago 16

MARIE JELLISON, left, was principal guide through new toll room of Warsaw, Ind., office during Open House festivities held during National Telephone Week.

decision. The challenge of the job was taken up immediately, and with vigor . . . . a most applicable word in this case, as the girls had to complete each conversation with two pairs of cords as well as keep their own wood stoves fired up against the winter cold. Within three months time our young lady was promoted to the toll office at Portland, Indiana — and one year later, at the age of 20, was selected to be chief operator for the Home Telephone Company.

During the next 17 years Miss Jellison and the exchange matured together. A coal burner replaced the wood stove, was in turn replaced by central heating. The building was enlarged and modernized. The aging magneto switchboard gave way to the latest version common battery equipment. Even the trouble men shaved more often; swapped horse and buggy for a motorcycle.

Marie's own work consisted mainly in selecting and training girls for the operating force . . . . usually promising Juniors in high school who came in as part-time operators so that on graduation they could step, fully-trained, into regular jobs. But she felt it important to understand the workings of all other departments, even the terminal room. At one point the Wire Chief left precipitously for Florida — Marie served in this capacity for over a month until the new man came on the job.

In general life in the exchange moved along on an even keel: the well-kept secret of an operator's marriage plans; the molding of group spirit and morale; the "extra" services for subscribers, each adding another brush stroke to the warm, living portrait of "the operator." But it was not always placid — if it had been, the job would not have held Marie Jellison.

Early one morning, three days before Christmas, fire leaped through a 3-story department store right across from the exchange. As a safety measure the firemen roped off the area; refused to admit Marie.

On the intervention of the president of the telephone company she was escorted in. As she entered the switchboard room the firemen were evacuating the operators preparatory to hosing down the switchboard and cables. Without thought of personal danger, she took a position on the board, convinced the firemen that they should delay action until the last possible moment.

The girls smelled of smoke for many days to come, and some cables were actually put out of commission by fire, but service was never totally disrupted and all was ship-shape again by Christmas Eve.

In 1927 Miss Jellison accepted a new assignment as office manager for the Interstate Telephone Company, which had bought out the Home Telephone Company. The experience was not strictly to her choosing, as she has always felt most at home wearing a chief operator's set, but it provided the background for a new challenge soon to develop.

When the United Telephone Company (now United Utilities Co.) of Kansas acquired ownership of the Interstate properties, Miss Jellison was asked to help bring collections in the Ohio exchanges up to a better percentage. As an added inducement to accept this position, she was offered her own car. Marie can smile now as she remembers how she was assured that the car would "last for the duration of the job," since her traveling assignment has continued, under different titles and different bosses, for 23 years — and nearly that many cars!

While on this collections mission she became principal protagonist in a franchise dispute. One city in the territory decided — at at least certain political aspirants decided — to take over ownership of the telephone properties, and campaigned for a public referendum on the basis of "no profits-low rates."

The Telephone Company, having a large investment at stake, decided that the plant was *not* for sale. Marie Jellison was appointed leader of the counter-campaign. She organized the employes in a house-to-house canvass to explain what telephone service is, what it costs, the complete tax picture, how improvements are financed. Her moment of triumph came on election day when city ownership was defeated 5 to 1.

The last 20 years have seen the greatest changes for the United Company, in which Marie Jellison was now a key person. When Ralph F. Lucier became president he made organizational changes as a preliminary to pushing hard on a tremendous program of modernization and expansion of services.

The commercial and traffic departments were separated; George Steele, to whom Miss Jellison reported, took charge of the newly arranged traffic department. She be-

ANSONIA® Ankoseal TOLL QUADDED CABLES

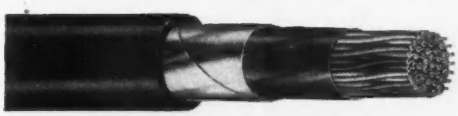
Quality that assures happy subscribers!

ANSONIA® Ankoseal

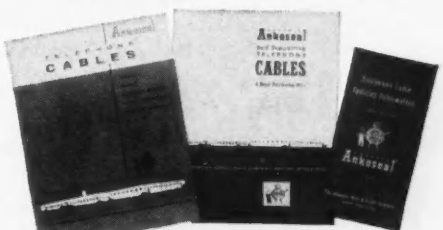
Toll Quadded Cables Assure Best Performance From Your Modern Exchanges

Throughout the country consistent performance reports prove that Ansonia Ankoseal Toll Quadded Cable gives subscribers the finest service available.

You can stop worrying about "Noisy Cable", "Excessive Cross Talk" and "Excessive Circuit Unbalance" when you install Ankoseal Toll Quadded Cable.



Available In 19 Gauge From 7 to 32 Quads



Ask For This New Literature on Ansonia Ankoseal Telephone Cables

1. Telephone Cables
2. Self Supporting Telephone Cables
3. Splicing Booklet

Ansonia Ankoseal Cables
Built Up To Quality...
Not Down To Price!

INDEPENDENT

THE ANSONIA WIRE & CABLE COMPANY · ASHTON · R. I.

The Oldest Name In Plastic Telephone Cables In The Most Modern Plant Devoted Entirely To Producing Cables.

came, and has since remained, Traveling Chief Operator for the entire Indiana and Ohio properties.

Once again the little lady with the big heart was back to her true love. Many times — especially during World War II — she would arrive on a routine call at a small office, find the agent worn out from long hours and no relief.

"Alright, which do you want me to do — clean your house and wash your dishes, or work your switchboard?"

And usually the answer would be, "Can you give me a lift with the housework?"

Many were the times that Marie swept and washed dishes in the morning, gave instructions in toll procedures in the afternoon, and then stood lonely relief for a night operator who needed one free evening with her family.

Marie Jellison has talked many times of "calling it a day," but she and progress have been so closely linked for so long that the day just never seemed to arrive. This summer brought the greatest challenge of all, when the continuous program of exchange modernization was climaxed by the conversion of the Warsaw (Ind.) Office to customer Direct Distance Dialing.

TANGIBLE EVIDENCE OF ESTEEM: Gifts received by MARIE JELLISON who retired Sept. 28.

To her host of friends in all parts of the country, Marie Jellison is just plain "Jelly." On September 28th she decided to "turn in her spikes." The retirement party proved as gay as a wedding — this was the only way "Jelly" would have it. The guest book was signed by 169 persons from even the most remote corners of United's operating area. Stacks of cards, letters and telegrams from those who couldn't attend were a testimonial to the regard and affection of all who knew her.

The spirit summed up in the simple words, *"I'll be there,"* will continue even as Marie Jellison returns to her home in Dayton, Ohio. The new traveling chief operator — Miss Marjorie May — has been her understudy and inseparable companion for some time. Like Marie Jellison, Miss May started her career in Portland, Indiana, and (of all times) on April Fool's Day!

The United Company and the entire telephone industry are ever so much better today because 47 years ago, when a young girl named Marie Jellison flipped a coin, it came up "Operator." — *George Forbes.*

Training

(*Continued from page 40*)

First, there are the basic sciences which include mathematics, physics, and chemistry and these occupy approximately one fourth of the total program. The engineering sciences occupy another quarter and cover subjects such as mechanics, thermodynamics, mechanisms, electrical theory, and properties of materials.

Another quarter of the undergraduate program is devoted to engineering analysis and design. This area is the climax of the curricula for here the student is indoctrinated into engineering practice and begins to express himself as an individual engineer. Utilizing the knowledge attained, he solves problems similar to those he will face during his active career.

The balance of the curricula is in the humanities and social studies area, which is designed to aid the student in the development of a personal philosophy and to better enable him to serve his fellow man as a part of a community.

Any high school student who is not in the category of "hating" mathematics and has above average grades in his high school work can have reasonable assurance of success in completing an engineering curriculum. Engineering curricula, however, are not easy and demand many hours of study. The playboy rarely completes an engineering program.

The rewards of an engineering degree today are so great that only an immature fool would squander an opportunity to pursue such a course of study. The graduates of my school in the Class of 1957 spent an average of $1100.00 per year for their education, 40 percent of them had part time jobs defraying some of this expense, and virtually all had summer jobs with earnings equal to a substantial part of the annual cost.

At graduation each senior had eight or ten offers of employment from which to select his first position and his average starting salary was $470.00 per month. It takes only arithmetic, not higher mathematics, to see the profit available in an engineering course of study, to say nothing of the personal satisfaction of accomplistment inherent in an engineering career.

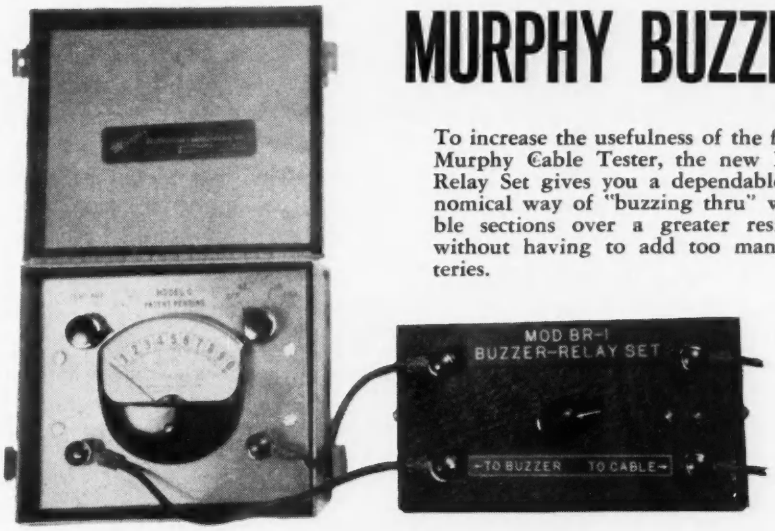
The key to the future of our country lies to no small extent in our schools of engineering and in encouraging our young people to seek careers in science and engineering. In our local communities we must take steps to insure that our secondary schools offer proper preparation for careers in these areas. The engineering colleges, too, have many problems of increased enrollment, an ever increasing amount of subject matter to be included in the curricula, the need for laboratory modernization, and the maintenance of an adequate faculty.

I am sure that the combined efforts of our high schools and engineering colleges in acquainting our young people with engineering will result in a future engineering force adequate to the job ahead.

To the young man who enjoys the orderliness of mathematics and the challenges of science I would strongly recommend that he consider a part of the greatest profession — Engineering!

Now you can *buzz through* wet cable sections and not have to test from field and office ends.

MURPHY BUZZER RELAY SET (BR-1)



To increase the usefulness of the famous Murphy Cable Tester, the new Buzzer Relay Set gives you a dependable, economical way of "buzzing thru" wet cable sections over a greater resistance without having to add too many batteries.

The BR-1 will buzz thru a loop resistance of 0 to 1000 ohms. Only one 4½ volt battery is used in the set and it is enclosed in a cabinet with a special "balanced armature" relay. Dimensions of the Murphy Buzzer Relay Set are 3½ x 6 x 3 inches. It is shipped complete with a pair of water proof cords for connecting to the Murphy Cable Tester, and a heavy duty 4½ volt battery.

Write for prices and additional information.

Order your new Model VC Test Cords for use with Murphy Cable Tester. Made of high quality, extremely flexible, test wire, they're insulation tested at 20,000 volts . . . assure no "leakage" readings.

ELECTRONIC RESEARCH DEVELOPMENT MANUFACTURE

MURPHY ENGINEERING LABORATORIES, Inc.

4419 Tulsa Houston 24, Texas

Say mister... what does this T-C mean?

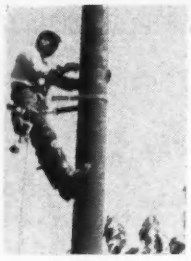
Buster, to you it's just some initials . . . but to the people who use 'em it means quality. You see, T-C stands for Taylor-Colquitt Company who for 30 years now have built a reputation for careful timber selection, constant improvement through research, controlled preservative treatment and higher standards of quality. Yes sir, Buster, to us this T-C means a quality pole . . . one that will give long years of trouble free service.

Distributed by
AUTOMATIC ELECTRIC SALES CORP.
AND LEICH SALES CORP.

T-C TAYLOR-COLQUITT CO. TIMBER CONSERVATION

TAYLOR - COLQUITT CO.
SPARTANBURG, SOUTH CAROLINA

PLANTS AT SPARTANBURG, SOUTH CAROLINA AND WILMINGTON, NORTH CAROLINA



CD Offices

(Continued from page 42)

most cases, estimates of future line and station demand. The growth of traffic may be a different matter. Records of local traffic flow within the community dial unit may not be available, and will then have to be prepared.

The first requisite for obtaining adequate historical records of this intra-office traffic is adequate metering facilities. An absolute minimum of traffic metering equipment would consist of peg count meters for each originating line group (line finders) and each terminating line group (connectors).

Beyond this, it could hardly be considered extravagant to provide "all line finder busy" and "all trunk busy" meters for each line finder group, each connector group, and for the master office trunk group, and secondary outlet groups, if any. Similar ATB metering might be provided for other intra-office groups, such as first to second selectors; however, these could hardly be considered vital, since traffic in these banks of switches may be calculated by the Traffic Engineer from an analysis of line finder, connector, and trunked traffic.

Traffic densities, in terms of hundred-second calls, traffic hours, or similar units, should be recorded in all switch and trunk groups on a periodic basis. The minimum frequency which would be considered reasonable for such counts would be annually, except in the most unusual cases. Semi-annual counts would be preferred in most cases. Quarterly studies would normally be considered too frequent; that is, the rate of change in traffic densities is usually not great enough to warrant the expense of the additional studies. In all cases, a two-day study is adequate to be considered representative.

Traffic density studies may be made by means of visual switch counts, or by means of recording devices. In the latter case, of course, accuracy is improved. Peg count meter readings will be made simultaneously with the traffic density studies, which will include the following groups:

(a) Line Finder — first selector links; (b) intra-office groups, e. g.,, 1st to 2nd selectors, etc.; (c) terminating groups, i.e., connector groups; and (d) trunked traffic — to and from master office and secondary outlets.

In the hands of a Traffic Engineer such studies will give a complete picture of the volume and flow of traffic in the CDO unit at the time they were taken. A series of these studies, taken periodically, will indicate the trends of traffic flow and form a basis, together with line and station forecasts, for accurate estimates of future traffic demands and equipment requirements.

Readings of all CDO peg count meters should be scheduled regularly. If possible, these should include hourly readings over several of the busiest hours of the day, and total day readings for two days per month. In the very small offices, however, where distances are great and special trips must be made to obtain readings, two-day readings on a quarterly basis may be found adequate. Peg count readings will be used by the Traffic Engineer to establish growth trends and to indicate busy seasons, so that the traffic density readings previously mentioned may be either scheduled to be taken during the busy season, or converted to busy seasonal equivalent figures by ratios.

With the foregoing records summarized and made available, the personnel in charge of line assignment will have an indication of those groups where new assignments may be made, and those that should be avoided due to their present full or perhaps overloaded status. Correct line assignment, guided by traffic load and balance studies, is one of the important keys to good local dial service.

Overload Conditions

FINALLY, I want to pass on a suggestion which was recently given to me as a means for keeping continuously informed and forewarned as to the possible development of overloads in portions of your dial equipment.

As we know, the more isolated of our dial offices receive infrequent attention in the form of detailed study, and you can hardly call my recommendation above, current records. Between study periods, therefore, it is quite possible to develop localized overloads of which we are not immediately aware.

These may be detected by all trunks busy registrations, and you will recall that I stated previously that you could not be called extravagant if you installed complete ATB metering. Since readings from this type of meter do not need to be on a strictly scheduled basis, but may be taken at more or less irregular intervals, it is recommended that the local Plant man be requested to take readings whenever he calls at the office.

For this purpose, a stock of 2-penny post cards should be placed in the CDO, prepared with date and hour spaces, and spaces for readings for each ATB meter. The card would be pre-addressed to the appropriate Traffic individual. Upon receiving the card with the latest reading, this individual could look at his last card, which would have been prepared one to three or four days previously, and calculate the number of registrations which had occurred in the intervening interval. If there were none, or just a few, he could relax and wait for the next reading. If his cards showed that a considerable number of ATB's had occurred, he could suspect that something was wrong, and could investigate. In this way, trouble, if it occurs, can be quickly detected and action taken. —*Adapted from a paper presented at the* 1957 *convention of the Texas Telephone Association.*

Worth Writing For

WRITE Minnesota Mining & Mfg. Co., Dept., NV-8227, St. Paul 6, Minn., for your copy of valuable booklet titled "How Distinctive Markings Work For Public Utilities" . . . A quick but comprehensive look at the scope of Blaw-Knox Company's operations is given in a new booklet, "Welcome to Blaw-Knox." Copy available upon request to Dept. 4, (TE&M) Adv. Mgr., Blaw-Knox Co., Pittsburgh 38, Pa.

NEW! TYPE 1200 REPEATING COIL

Better Balanced for Better Transmission

Recent laboratory tests prove that the Automatic Electric Type 1200 is *the most accurately balanced repeating coil ever manufactured!* Automatic's advanced manufacturing methods provide exceptional accuracy in the winding of each coil and insure balance *to within one-tenth of one percent!* This creates extremely desirable transmission characteristics and prevents cross-talk or any other extraneous noise.

If you're looking for a better, more economical way to meet top transmission standards on Simplex, Phantom and Composite circuits, try the Type 1200 Repeating Coil. They're also fully compatible with Western Electric models! For further information write to: *Automatic Electric Sales Corporation, Northlake, Illinois. Or call FIllmore 5-7111.*

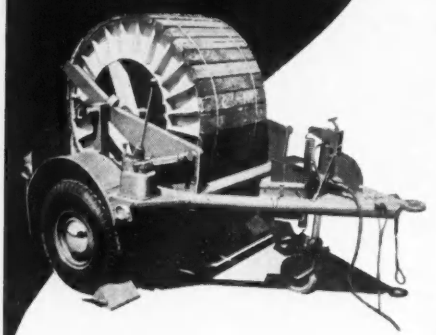
AUTOMATIC ELECTRIC

A member of the General Telephone System
One of America's great communications systems

GENERAL SYSTEM

DESIGNED AND MANUFACTURED BY AUTOMATIC ELECTRIC
FOR THE INDEPENDENT TELEPHONE INDUSTRY

TRUCO
Lightweight
WIRE
CARRIER



▶ Hydraulic Reel lift
▶ Hydraulic Front Support
▶ Spring Suspension
▶ Up to 4000 lb. loads

All hydraulic operation for easy one man loading and unloading.

Built with a rugged tubular steel frame. Spring mounted on a 5,000 lb. capacity drop axle. Gross weight empty 1250 lbs.

Eliminates need for winch rope.

Write Truco for more information.

Truco
TRUCK Equipment CO.
3963 Walnut Street
Denver 5, Colorado

Report From England

Midland Region of British Post Office Tests 6 Pair, Rural Distribution Cable

By R. G. TUNGATE

Introduction

SIX-PAIR self-supporting aerial cable of the Rural Distribution type has been on trial for the past two years in the Midland Region of the British Post Office. The cable consists of six insulated pairs surrounding a polythene-insulated steel support wire, 0.109 in. diameter. The conductors have differing lengths of twist to prevent crosstalk, and are 20 lb. (19 AWG) copper, insulated with polythene plus a coating of PVC.

Conditions in Great Britain are considerably different from those in the United States, particularly regarding the winding nature of the roads, a feature which is a disadvantage in the erection of long lengths of self-supporting aerial cable of any form. However, it appears that there is a field of use for cable of the Rural Distribution type.

Conditions of Use

THE CABLE is normally used on the subscribers' side of cable terminals to replace open-wires, and has been employed for such purposes as the following: —

(a) For distribution in areas of low telephone density, rural or urban.
(b) For joint construction on power-poles.
(c) For temporary relief to overloaded routes.
(d) To lead-off a number of pairs at right angles to an existing open-wire route, to avoid the provision of sets of arms at right-angles.
(e) As a multiple drop-wire to factories, offices etc. (*Fig.* 1.)
(f) To lead a number of pairs from a cable pole, originally intended for radial distribution.
(g) To avoid maintenance difficulty due to the presence of trees etc.
(h) To give greater clearance over roads and buildings than would be possible with a number of open wires.

The chief advantages in the use of Rural Distribution Cable for conditions (a) and (b) is the facility of ready access to a particular pair at any pole. Its advantages over other methods of construction for conditions (c) and (f) are in a saving of labor, and reduction in loading on poles and fixtures. Where circuits unavoidably pass through trees, use of the cable, together with suitably spaced protective sleeving, is expected to reduce the fault liability (condition g).

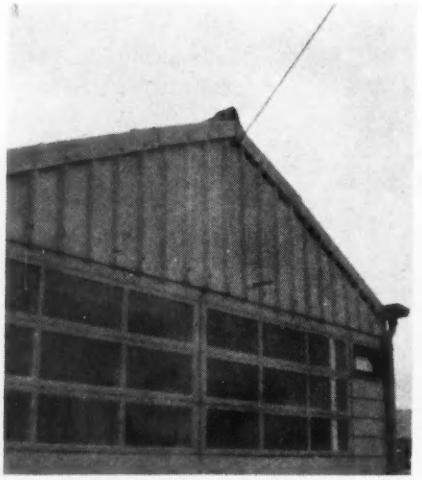


FIG. ONE:—Six-pair cable as multiple drop wire.

Erection of Cable

CARE HAS TO BE taken to avoid dragging the cable over rough ground during erection, otherwise damage to the insulant can result; also the formation of loops or kinks in the cable during paying out has to be prevented. J-shaped support brackets have been used for supporting the cable at poles where the pull-on-pole was less than 5 ft. At poles where the pull-on-pole was between 5 ft. and 30 ft., the cable was tensioned up to that point and the support wire gripped in a clamp of the type used for supporting normal aerial cable suspension wire. At poles where the pull exceeded 30 ft., an eye-bolt was fitted, and the support wire terminated on either side of the eye.

Several different types of adhesive textile or plastic tape have been used

TELEPHONE ENGINEER & MANAGEMENT'S

HANDBOOK DATA SHEETS

Prepared By

JOHN S. REED

Reliable Squeez Deadends

Reliable Squeez Deadends consist of a squeez splicing sleeve with a factory assembled loop (bail) in one end as shown below. The other end is for the line wire and only the line wire end need to be attached by the lineman. The loop, or bail, is a specially prepared, high strength, D-shaped stainless steel wire which is factory assembled to one-half of the sleeve.

The table below lists sizes of Squeez Deadends for telephone line wires.

The following illustration shows a typical use of the Reliable Squeez Deadend on a deadend bracket spool insulator. The Squeez Deadend is especially suited for terminating high strength steel line wire since the stainless steel loop provides a high strength dead end and at the same time resists wear at the point of contact with the insulator. The Squeez Tap sleeve shown is of the proper size to accommodate either No. 18 or 17 drop wire, or No. 18 bridle wire. A larger sleeve is employed for No. 14 jumper wire.

Showing use of Reliable compression sleeves in open-wire dead end with drop or bridle wire connection.

Kind of Conductor To Be Deadened	Code No.	Conductor Gauge	Conductor Mils	Die Groove	Number of Compressions On Each End
	DE-12-C-1	12 AWG	081	C	3
	DE-12-D-1	12 AWG	081	D	3
Copper	DE-10-C-1	10 AWG	102	C	3
Line	DE-10-D-1	10 AWG	102	D	3
Wire	DE- 9-D-1	9 AWG	114	D	3
	DE- 8- J-1	8 AWG	128	J	4
	DE- 6- J-1	6 AWG	162	J	5
Copper-	DE-12-D-1	12 AWG CW	081	D	4
weld	DE-10-D-3	10 AWG CW	102	D	4
Line	DE-10- J-1	10 AWG CW	102	J	5
Wire	DE- 9- J-1	9 AWG CW	114	J	5
	DE- 8- J-3	8 AWG CW	128	J	5
	DE-14-C-4	14 BWG-BB&85	083-85	C	3
	DE-14-D-2	14 BWG-BB&85	083-85	D	3
	DE-12-C-4	12 BWG-BB	109	C	3
	DE-12-C-5	12 BWG-BB&85	109-85	C	3
Steel	DE-12-D-2	12 BWG-BB	109	D	3
Line	DE-12-D-5 (BB)	12 BWG-BB	109	D	3
Wire	DE-12-D-5 (85)	12 BWG-85	109-85	D	4
	DE-12-D-5 (135)	12 BWG-135	109-135	D	5
	DE-10- J-2	10 BWG-BB&85	134-85	J	5
	DE- 9- J-2	9 BWG-BB&85	148-85	J	5
	DE- 8- J-2	8 BWG-BB&85	165-85	J	5

clear
lines
fast with...

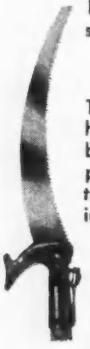
SEYMOUR SMITH
"Telephone" Tree Pruner

Here's the standard, the choice of the utility industry for years. Powerful action to cut cleanly—tough and almost unbreakable—easy to handle. No. 12 Pruner Head has 1½" cutting capacity. The lighter, No. 11, handles up to 1" branches. Both are malleable iron castings with tempered steel cutting blade.

Poles (18 ft. 3 sections) are of selected spruce with positive locking, seamless aluminum, telescoping ferrule joints.

FAST CUTTING PRUNING SAWS

Designed for fast, easy cutting—large, deep teeth, finest Swedish charcoal steel, streamlined, laminated hardwood handles. Every model you need up to chain saw work.



No. 20 POLE SAW HEAD

Tough aluminum head with large hook and outside horn for pushing branches, raising wires, etc. Also paint brush holder with wire clamp that holds brush securely. Fast-cutting 16" blade. Poles available.

FREE: Send for Seymour Smith catalog pages on tools for utilities. Keep them on file for easy reference.

Quality Tools
SEYMOUR SMITH
Since 1850

SEYMOUR SMITH & SON, Inc.
4411 Main St., Oakville, Conn.

for securing the cable pairs, where necessary, but most of these tend to unravel eventually due to weathering, and it is possible that an adhesive tape incorporating an internal wire or other stiffener would prevent the end of the tape from lifting, when wrapped around the cable.

Tensioning and Terminating the Cable

WHILE IT HAS generally been necessary to apply tension to the cable by means of a draw-vice attached to the support wire, it has been found possible to make temporary terminations, without damage to the conductors, at road-crossings, etc., during erection by applying 2 in. linen tape in a double plait for about 3 ft., along the outside of the cable, the two ends of the tape being taken back to the pole. A method is now being developed which uses a short length of rope served over the cable, so that the strands of the rope surrounded the cable; this enables a considerable tension to be applied to the cable without damage to the conductors and without having to expose the steel support wire.

For reasonable sags in average 55 yd. spans, the tension applied to the support wire has been approximately 250 lbs. It is proposed shortly to erect a length of cable on poles with 80 yd. spans, and it is anticipated that a tension of some 400 lbs. will then be required.

The normal method of terminating the support wire has been to make 1½ turns around the pole and secure it by means of a suitable 2-bolt clamp, though trial use has been made of terminations employing hardened steel jaws which grip the support wire by wedging in a tapering socket.

Connection of Cable Pairs

PAIRS AT THE exchange end of the cable were normally connected to cable terminals, but connection to line wires was made, if necessary, by means of a crimped joint inside terminal insulators having removable screw-tops.

Connections to drops at intermediate poles were taken via small pole-mounted terminal blocks, to provide testing and connecting points. The cable pair was cut and led into the terminal block, and if 2-party working was involved, a short length of conductor was jointed to the back-

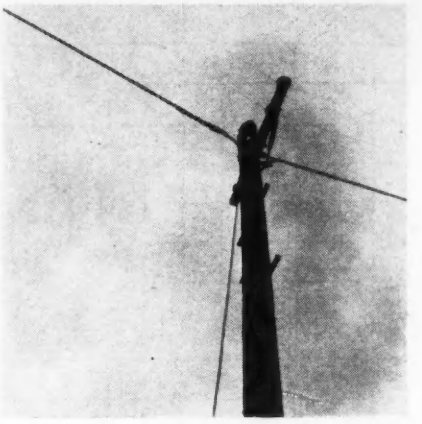


FIG. TWO:—Joint in six-pair rural distribution cable showing completed filled sleeves.

end of the cable pair, and commoned in the terminal. One-pair cable-mounted terminals were also successfully tried. Where it was necessary to joint the pairs, twisted or crimped joints were made, which were pressed into small compound-filled single ended plastic sleeves, to form waterproof joints. (*Fig.* 2)

Damage to Cable

GENERALLY, the cable is giving trouble-free service although severe corrosion of conductors has risen in some cases to such an extent that they have been completely eaten away by electrolytic action. This has been found to occur when conductors of working circuits have been exposed within a few inches of each other due to mechanical damage of the insulant.

The cable tends to hold moisture, thus worsening the conditions for corrosion. In one case the cable was damaged during erection by the presence of a sharp projection in the galvanizing of a support bracket, and in another case the conductors had been exposed by a lineman using a needle probe for testing. Damage from gunshot has also occurred.

Conclusion

ATTENTION is now being directed to improving methods of supporting and tensioning the cable at angle poles, as it is at these points where time is lost.

Due to the comparatively short lengths of route over which it is anticipated that Rural Distribution type cable may be used in Great Britain, transmission considerations are probably of less importance than the ability of the cable to withstand a certain amount of rough treatment during erection and tensioning, and it

may be found that a solid PVC conductor insulant is more suitable than polythene plus PVC.

Open-wire distribution is used to a large extent in Great Britain, but the introduction of Rural Distribution type cable, together with new types of small, inconspicuous drop-wire which are being developed, may eventually make possible the complete elimination of crossarms, insulators and open-wire with consequent economies in labor and raw materials. Acknowledgement is due to the Engineer-in-Chief of the British Post Office for permitting this article to be published. — *R. G. Tungate.*

Book Review

"Techniques of Plant Maintenance & Engineering — 1957." The latest in the annual series of reports on the changing patterns of maintenance and engineering gives these subjects the greatest coverage in depth of the eight volumes published.

A report of the conference proceedings held annually in conjunction with the Plant Maintenance & Engineering Show, "Techniques of Plant Maintenance & Engineering — 1957," this year includes 29 papers presented by discussion leaders. In addition, the report on the discussion has 890 specific problems presented in the form of questions and answers.

The book contains 273 pages, each 8½ x 11", bound in cloth on board.

Subjects covered include "Changing Requirements for Maintenance," "Preventive Maintenance," "Maintenance Cost Controls," "Maintenance Shops," "Maintaining Mobile Handling Equipment," "Labor Relations Where Union Labor Is Employed."

Published July 1, the book is available from the exposition management, Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y. The price is $10 postpaid.

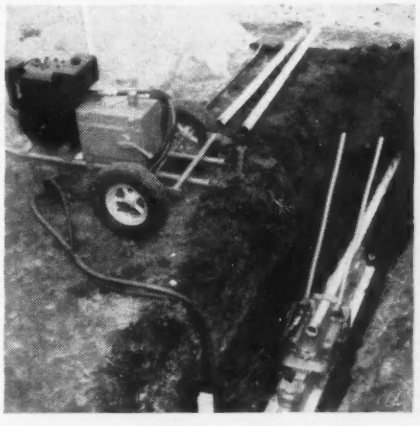
TELEPHONE ODDITIES BY HIGGINS
DID YOU KNOW THAT THE WORLD'S SMALLEST ISLAND TELEPHONE SYSTEM IS INSTALLED ON THE U.S. AIR FORCE RADAR STATION "TEXAS TOWERS" IT IS 110 MILES TO LAND (CAPE COD, MASS.)
TELEPHONE
TELEPHONE
APARTMENT FOR RENT
?
ONE CIGAR STORE IN TIMES SQUARE, N.Y.C. USES UP A TELEPHONE BOOK EVERY 48 HOURS
CONTRIBUTED BY TOM O'SHEA N.Y.C.
THIS PHONE BOOTH IN MIAMI IS NOT FOR RENT AS THE SIGN WOULD HAVE YOU BELIEVE. IT WAS POSTED BY AN APARTMENT OWNER IN THE AREA
TOM HIGGINS JR. + RUTH

FAST, LOW-COST WAY TO INSTALL PIPE . . .

push it under streets, roads, tracks, lawns with a timesaving

GREENLEE HYDRAULIC PUSHER

Speed underground piping jobs this way. GREENLEE Pusher is one-man-operated (by hand or with power pump), portable, simple to set up and use. No tearing up of pavement, floors, lawns . . . does away with extensive ditching, tunneling, backfilling, repaving. GREENLEE Pusher cuts job time to a fraction . . . often pays for itself on first job.



Two feet per minute average pushing time

GREENLEE Pushers are available in two sizes: No. 790 for ¾" to 4" pipe . . . No. 795 for pipe over 4", concrete sewer pipe, large ducts. Average performance of No. 790, shown above with power pump, two feet per minute. Write for literature.

TOOLS FOR CRAFTSMEN
GREENLEE

GREENLEE TOOL CO

2011 Columbia Avenue • Rockford, Illinois

construction and maintenance DIGEST

- Love this petticoat
- Profitable noise
- Takes punishment
- Save 3 ways
- Self-supporting
- Insure your power
- The splicing is easy
- New and phenolic
- 3 ways better
- Weather defier

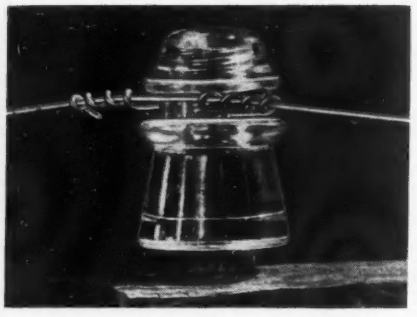
Published regularly to help you get the most out of your materials and supplies dollar

by Ralph W. Pouk, Jr., Office Mgr. and Inside Sales—Chicago

Back when I was a journalism student, I learned the most important news is always—WHO. The same is true in your business. When it comes to ordering supplies, names are the important part of the story. Behind the products you order stand the maker's name—**and** Stromberg-Carlson's name for 62 years of the finest in the field of sound. Together, these names protect you with a double guarantee on performance. They tell you you'll be satisfied with equipment you order. And of course, each order of yours is a boost for the science of telephony—because your supply business plays a major part in helping us continue our research for new and better telephone equipment. We're mighty grateful for your support. We'll do our best to merit your friendship in years to come.

Single-petticoat insulator has *long* leakage path

You get just about the longest leakage path possible with a single petticoat, on this Hemingray Number 17 insulator for medium length lines. It gives you excellent service through all sorts of weather, protects the pin from moisture, and isn't disturbed by sudden or seasonal changes in temperature.



Long petticoat, small size make the Number 17 insulator highly useful.

It's easy to put up, too, because it has a full 7/16″ square groove, over ⅜″ deep, which provides better support. This means you can work faster, and be sure you are putting your lines up to **stay.**

You save money both ways—on installation **time** and maintenance time.

Noise can be money!

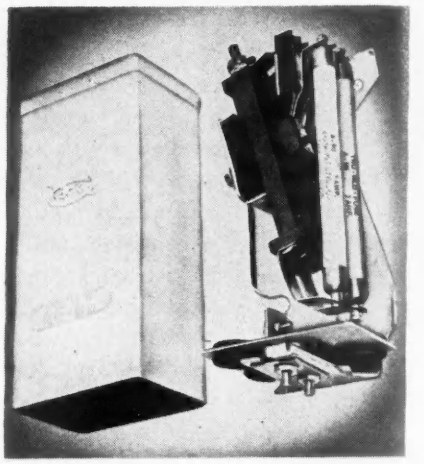
Take a business subscriber who has a telephone in some extremely noisy location—and who has finally decided to do something about it. Would you rather have him spend money in building a soundproofed booth—or give **you** the money as monthly income on a telephone which completely licks the noise problem?

The GAI-PHONE is such an instrument. It has a special transmitter that actually creates a "Zone of Quiet" around the handset—even in a spot as noisy as a boiler factory!

For rough service

You get protection plus with Cook Electric Company's type RO-9u single-circuit substation protector.

It is equipped with an H-20 protector unit mounted on a heavy-gauge formed steel bracket with weathertight grommets and a locking device for the hood.



The best available protector for single-circuit substations.

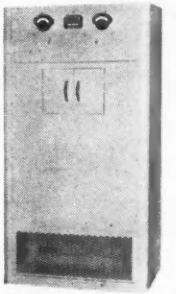
The rugged construction of the housing provides unusual durability. The high quality of the H-20 protector makes the RO-9u the best unit you can buy if you want high resistance to rough handling, abuse and damage from severe electrical discharges.

Dimensions of the unit are 6″ x 2″ x 3″.

Order from your Stromberg-Carlson representative.

Battery charger pays for itself, saves 3 ways

If you're interested in saving money, and still keeping up a good supply of battery power, here is real help for you. It's the Flotrol three-phase automatic constant voltage battery charger manufactured by Lorain Products Corporation.



Charger provides constant voltage, no moving parts.

You save power. Whether charging current is heavy or light, the Flotrol maintains an exceptionally high efficiency. For example—even as low as 10% of its rated load, the Flotrol

operates at 50% efficiency! Often, power savings pay the full cost of the Flotrol.

You save maintenance. With no moving parts, you don't have to lubricate or replace any worn components. You simply install the Flotrol and forget it.

You save your batteries, too. By providing a constant voltage, the Flotrol keeps your batteries fully charged, yet prevents overcharging. If a heavy overload is placed on the Flotrol, the output current is limited to a value which will not damage the battery or the Flotrol.

Easy to install, too. Just move the cabinet into position, and make five connections at conveniently located terminals (3 AC power leads, 2 DC charging leads). Then turn on the switch.

Distribution wire needs no cross arms

There are several reasons you can enjoy lower installing costs with this Whitney Blake multi-pair distribution wire.

Because it's self-supporting, it needs no cross arms. And it's easy to string because it's lightweight and comes in long lengths—up to 4000 feet per reel.

Self-supporting distribution wire has built-in messenger.

This wire has excellent electrical characteristics: low-loss transmission, low capacitance, high dielectric strength.

Its polyethylene insulation provides excellent weather resistance.

The wire is available in 3, 6, 11 and 16 pairs. The conductors are of #19 A.W.G. soft copper.

Insure your power supply

Because Planté batteries practically last forever...providing standby power that never fails...they're the best operating insurance you

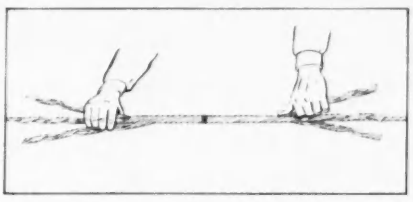
A sure, dependable supply of power when you need it. That, briefly, is the story of this Gould Planté battery.

can buy. In switchgear, signal and alarm systems, or emergency light and power applications, these lead batteries have rolled up amazing performance records . . . are famous for their ability to deliver a powerful surge or a steady flow of current the instant it's needed. Make sure you're in operation . . . always. Choose Gould Planté.

Ask your Stromberg-Carlson representative about long-life stand-by power with Gould Planté.

Here's the safe, simple way to splice

For repair of damaged line wire and messenger, or for new construction, Preformed Splices offer you the safe, simple way of splicing.



Available for galvanized steel, Copperweld and copper line wire and messenger.

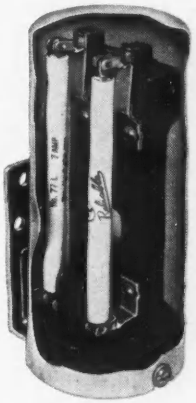
PLP Splices restore full rated strength and full conductivity, yet they add little to the over-all diameter, and a cable spinner can easily cross the splice.

You can install PLP Splices quickly by hand, without tools. Simply wrap the splice around the conductor.

PLP Splices are available for galvanized steel, Copperweld and copper line wire and messenger.

New Design Station Protector

For a station protector with really new features, specify the Reliable Series 2000 Protector.



All metal parts are bronze, aluminum or stainless steel.

This new protector replaces the Series 1000—and only the time-proved Reliable Discharge Blocks and Fuses remain unchanged. Quality and performance are better than ever.

The new protector comes with a phenolic fuse mount (rather than porcelain); a flexible neoprene base with integral wire entrance sealing slots (instead of open wire holes); and a redesigned fuse mount and terminal post that permit putting wiring snugly in place without removing fuses. The fuse mount can be easily reversed to wire from right or left.

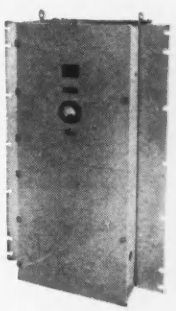
Raytheon Rectichargers® Battery Chargers—Complete Line 3-400 Amperes

Entirely redesigned new Raytheon Rectichargers offer three major improvements:

1. ±1% no-load to full-load stabilization prevents battery overcharging, minimizes gassing, lengthens battery life.

2. No audible hum at output terminals.

3. Most compact units on the market—wall or rack mounted.



New Raytheon battery chargers feature ±1% no-load to full-load regulation

(*Continued on Page 76*)

(Continued from Page 75)

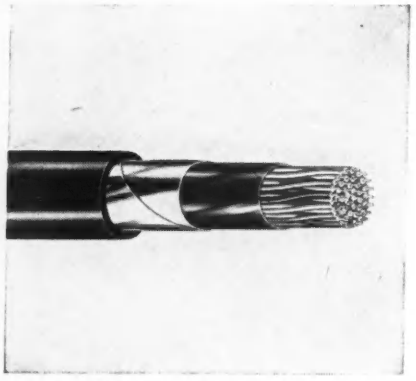
construction and maintenance digest

Automatically compensated for rectifier aging, Rectichargers offer high efficiency, completely automatic regulation. No moving parts and self-protecting circuitry assure minimum maintenance, long life. Single and three phase, 3-400 amps.

Built by Raytheon, supplied to you by your Stromberg-Carlson representative.

Gives maximum protection

This cable made by Ansonia Wire & Cable Company offers finer electrical characteristics than any other comparable cable.



Available in 24, 22 and 19 gauge, 11 through 404 pair

To get maximum protection against moisture and weather, specify Ansonia Type 775-P Aerial and Duct Cable.

Its conductors are individually insulated with polyethylene and paired with systematically varying lays to eliminate cross-talk. The cable is shielded with aluminum tape and protected by a tough, plasticized polyvinyl chloride jacket.

Distributed by

STROMBERG-CARLSON

A DIVISION OF GENERAL DYNAMICS CORPORATION

Sales Offices: Atlanta 6, Chicago 6, Kansas City 8, Rochester 3, San Francisco

"Hands In The Dark"

By PHIL GLANZER

TO LIVE always in a world which knows neither dawn nor dusk requires a special kind of courage. But courage alone is not enough, the hands of the blind must learn new skills, they must be given the tools of independence. An experiment to help blind operators of private telephone switchboards is in operation at the Canadian National Institute for the Blind, in Toronto, Canada.

A new tailor-made telephone system plays an important part in the training of blind at the Institutes' new headquarters.

The telephone equipment was engineered and installed by the Bell Telephone Co. of Canada to meet the specific telephone requirements of the C.N.I.B. It will provide rapid communications in the larger headquarters, besides serving in the training of operators.

Located in the administration building is a dial switchboard which automatically makes the connections for "local" and "out" calls, while an operator deals with incoming calls. The residences, commisariat, cafeteria, and work centers are served by a manual switchboard, at which an operator makes the connections for all calls.

Both switchboards have braille cabinets, so that C.N.I.B. operators can do the work of sighted operators by touch. The switchboards and associated equipment are connected by "tie lines" for rapid handling of internal calls.

Mrs. Clayton Smith is the first blind Canadian to test the "electronic eye," developed by Bell scientists. With the "eye," a tiny, light sensitive photo-transistor which fits on the finger something like a thimble, Mrs. Smith can "see" the switchboard. Wearing no other equipment except the standard headset, Mrs. Smith simply runs her hand over the switchboard, and as her finger passes the lighted lamp, the "eye" sends out a signal, and she is able to plug in to the correct line.

Until the new system was installed, the C.N.I.B. used only a small switchboard at its old headquarters at 186 Beverley Street, in downtown Toronto, and several separate telephones at C.N.I.B. premises in scattered locations throughout Toronto.

The new telephone arrangement

provides 120 local lines and 20 trunks, compared to 41 local lines and 8 trunks in the old system.

Thus the telephone equipment in the new center provides speedy and efficient communications and, at the same time, affords training facilities for blind operators. The training of non-sighted operators is under the direction of the Bell Telephone service advisory group. Its purpose is to prepare student operators for service at telephone switchboards in business and industry.—*Phil Glanzer.*

Parsan Completes Study Period With United Tel.

SOEKHAI P. PARSAN, a veteran supervisor of the Government Rural Telephone System in Surinam (formerly Dutch Guiana), South America, recently completed four months observation and practical work at

SOEKHAI P. PARSAN, veteran supervisor, Government Rural Telephone System in Surinam, South America.

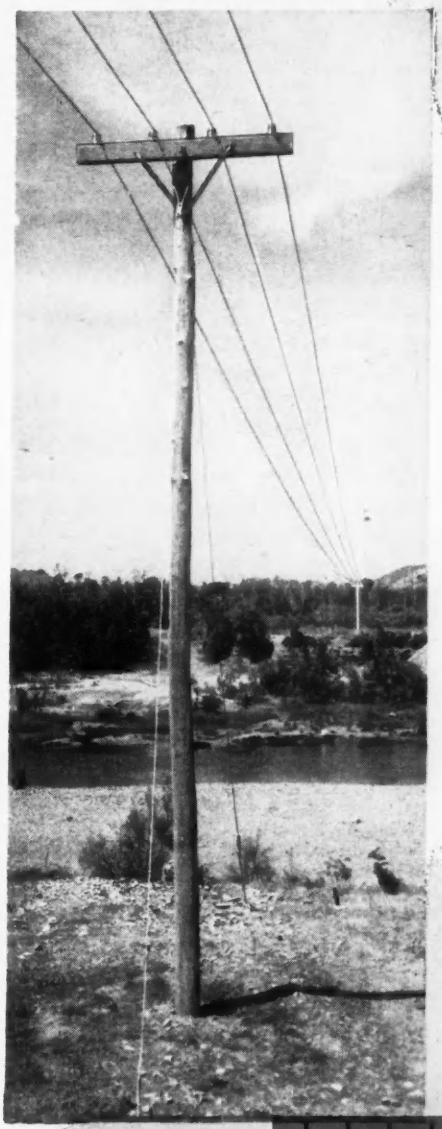
the general offices of the United Telephone Companies, Kansas City, Mo.

His visit, arranged under the auspices of the International Cooperation Commission and the Federal Communications Commission was organized to allow him to spend the majority of the study period in the United Telephone District Offices where he could learn by practical experience; consequently he climbed poles, strung wires, checked circuits and performed all of the tasks American telephone men encounter daily.

Crapo HTL-195

FOR EXTRA LONG SPAN RURAL LINES

The NEW LOWER Resistance Extra-High Tensile Line Wire



- Better Voice Transmission
- Spans to 600 Feet or More
- Savings in Material and Labor
- Lower Ultimate Costs

Superior voice transmission qualities and extra high physical strength are combined in *Crapo* HTL-195 to provide the most practical and economical of conductors for rural telephone circuits.

This new, lower-resistance steel line wire, with a minimum breaking strength of 1800 pounds, makes possible spans to 600 feet in Heavy Loading, 650 feet in Medium Loading and 700 feet in Light Loading areas. Where terrain and other conditions permit the use of extra long spans, this means a 40% reduction in pole structures. The savings in materials and in construction costs will be apparent.

Before building new, or replacing old rural lines, investigate the possibilities of *Crapo* HTL-195! Write for complete information, including Manual of Engineering Data, No. A-195!

Pioneers in the development of high tensile and extra-high tensile steel line wire, and associated products, for the telephone industry.

INDIANA STEEL & WIRE COMPANY, INC.
MUNCIE, INDIANA

FREE LITERATURE

This feature of "Telephone Engineer and Management" helps you obtain up-to-date technical bulletins, catalogs and literature. To obtain your copies write Reader's Service Department, 7720 N. Sheridan Rd., Chicago 26, Ill.

Engineering Services

MANUFACTURERS with engineering problems or in need of supplementary engineering or drafting talent during peak periods will find a solution in the new, descriptive brochure available from Associated Engineers, Inc.

The brochure explains and illustrates the firm's six basic divisions of Mechanical Engineering, Tool Engineering, the Industrial Laboratory, the Special Services Division (Technical Writing), the Special Products Division and the large manufacturing plant. A listing of companies and governmental agencies indicates that customers of Associated Engineers, Inc. form a noteworthy cross-section of the "Who's Who" of American industry.

Wire Identification

IDENTIFICATION of high temperature harness, wire and cable, including Teflon, can now be successfully accomplished with pressure-sensitive Mylar #1000, a product of Pee Cee Tape & Label Co.

Non-conductive, instantly adhesive and only 2½ mils thick, Pee Cee's Mylar has the tensile strength of steel and is resistant to temperatures up to 500 degrees F. for as long as 60 hours.

Electronics Catalog

CLEVELAND INSTITUTE of Radio Electronics has announced publication of a new brochure and course outline, bringing electronic industry employment requirements and opportunities up to date.

The new Cleveland Institute brochure presents the subject from the viewpoint that true technical competence in electronics is necessary to guarantee success in such a rapidly changing field.

Stationary Diesel

THE MODEL 65 Superior Stationary Diesel is described in new Bulletin #111 offered by White Diesel Engine Division, The White Motor Co.

According to the literature, Model 65's are built as four cycle, six or eight cylinder, vertical, in-line engines. Power range is 580 to 2150 BHP continuous. Engines are used with generators of 400 to 1500 KW.

Included in the 8-page, 2-color bulletin are product photos, construction feature illustrations, specifications, and performance curves.

Fasteners

A BROAD range of precision industrial fasteners — for a wide variety of production assembly and maintenance applications — is reviewed in a revised bulletin published by Standard Pressed Steel Co.

The four-page bulletin covers the complete line of standard SPS industrial fasteners including Unbrako socket screw products, Flexloc self-locking nuts, Sel-Lok spring pins and Hallowell steel collars.

The illustrated literature gives range of sizes, materials, finish and other specifications for socket head cap and set screws, shoulder screws, both regular-height and thin self-locking nuts, clinch nuts, dowel pins, spring pins and collars.

"How To Use Tape"

USE OF pressure sensitive tapes, under difficult conditions, has been described and illustrated with actual tape samples in File No. 57TT1, offered by Tropical Tape Division.

Tested and used under tropical conditions, presenting the problems of humidity, heat, mould, sun exposure, have been reasons for developing formulations of pressure sensitive tapes to meet many special industrial, automotive, paint masking and even hurricane uses. Paper, cloth, cellophane, fibre, glass and other backings, with the special tacs for quick and easy use, have been developed by Tropical.

This colorful, 4-page heavy cardboard 8½" x 11" file, has the actual tape samples hand applied, along with specifications and some applications.

Equipment Catalog

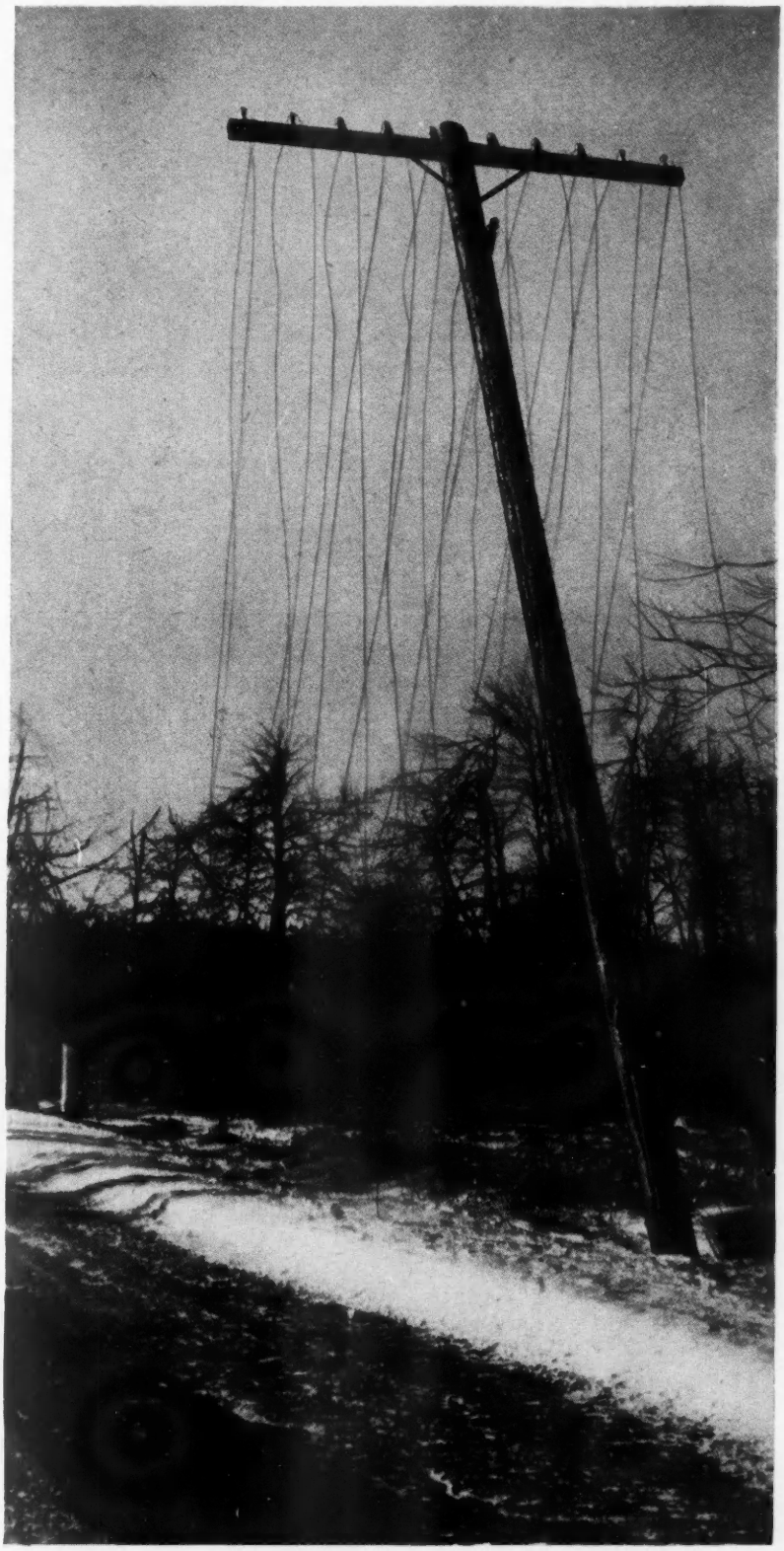
A NEW catalog published by Precision Equipment Co. lists countless kinds of standard office, factory, warehouse and maintenance equipment and introduces new products which have recently been devised as an aid for executive planning.

For example, a portable cabinet work bench is illustrated and its specifications are given in detail in Precision's new catalog. Ideal for repairmen, electricians and maintenance workers, this large sturdy bench with its roomy storage compartments increases the efficiency of workers who must carry their tools to various locations in the plant. Also new, streamlined, base cabinets for use as a sturdy stand for bench-type machines are shown.

Magnetic Tapes

A NEW BULLETIN DM-4 giving descriptive data on silicon iron magnetic tapes has been released by Thomas & Skinner, Inc.

Rely on Graybar...



ESPECIALLY IN EMERGENCIES

Graybar's long experience in serving the every day needs of telephone companies is especially valuable when lines go down.

A nation-wide network of Graybar offices and warehouses provide ready accessibility to stocks of essential telephone supplies. You can depend on the fastest possible deliveries of emergency replacement items — wherever and whenever they are needed.

Experienced Graybar personnel have developed the know-how needed to initiate immediate action and efficient follow-through from working closely with telephone companies daily and through emergencies of all kinds.

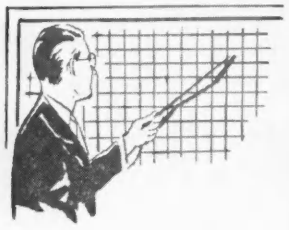
Moreover, Graybar is totally owned by its operating and retired personnel. That's why you're sure to get, especially on emergencies, *personal* service from people who have a *personal* interest in giving you the assistance you need, when you need it.

610-2211

Graybar Electric Company, Inc.
420 Lexington Avenue, New York 17, N. Y.

Call Graybar first for...

IN OVER 130 PRINCIPAL CITIES



telephone ASSOCIATION activities

Arkansas Independents Meet

Congressman Wilbur Mills Urges Repeal of Communications Excise Tax

WILBUR MILLS, dynamic Congressman from Arkansas, and member of the powerful House Ways and Means Committee, speaking to the annual convention of the Arkansas Telephone Association in Hot Springs, September 16-17, said that if a valid case can be made soon a part of the communications tax can be repealed.

He stated that more than $10,000,000 in excise taxes are collected every year — a sum almost as great as taxes imposed on luxury items. The Congressman who is interested in the small businesses of America and its private enterprise system, reviewed the history of the excise tax from the time it became an "emergency," its effect on the nation's economy, then told the companies, "you need relief, and you must fight for it."

He urged telephone companies through all the state associations, its regulatory commissions, NARUC, and USITA to organize and begin a campaign of letting Congress know what the industry is thinking and what is needed.

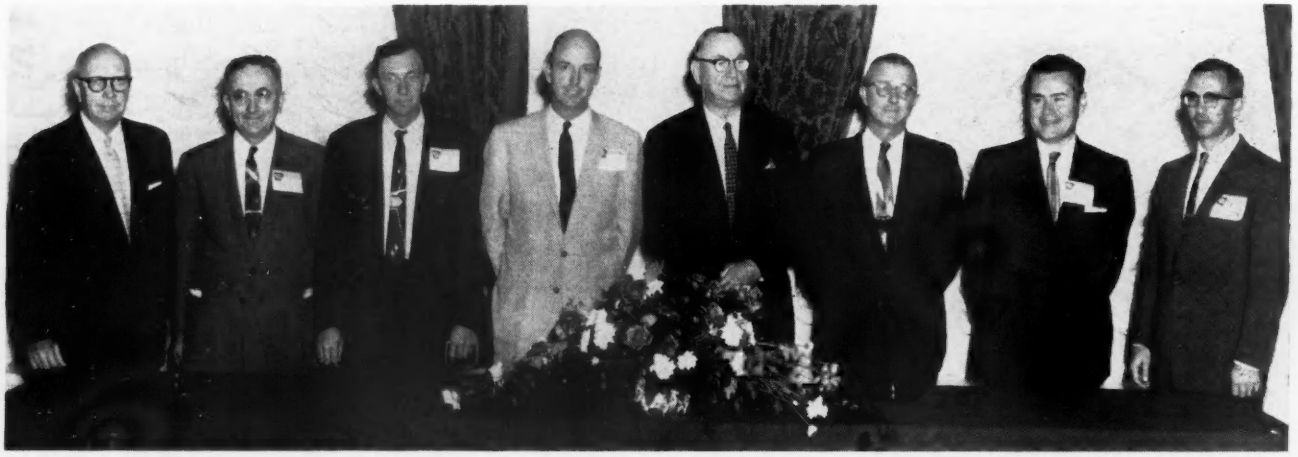
He further urged industry members to persevere in their efforts to get everyone working as a team to show Congress the unjustness of the tax.

The Convention drew a good representation from its small companies throughout the state, especially in the Accounting Conference moderated by M. E. Michell, director of utilities of the Arkansas Commission, and in the Traffic Conference conducted by Winnie B. Burnett of Southwestern States, assisted by Jeanice Falls, Etta Poynor, and Dorothy Cruthis, chief operators at Russellville, Harrison and Stuggart.

A great deal of interest was displayed in the workshop on New Materials and Construction Methods, where C. A. Gunn of Whitney-Blake, H. L. Graves of Southwestern States, and Cliff Davis, engineer of Sullivan, Mo., teamed their efforts to show the companies what is new on the telephone horizon, how it can be utilized to its best advantage for a long-life plant, and the ways it can fit into various plant requirements.

Lewis M. Robinson, chairman of the Arkansas Commission, in speaking to the membership, said companies in the telephone industry have made tremendous progress under regulation in Arkansas; that in 1951, 86 operating companies had an investment of $6,500,000 with a gross income of $1,500,000 and 51,000 subscribers; that in 1956, 65 operating companies had a total investment of $15,500,000 with a gross income of $1,800,000 and 73,000 subscribers.

He contributed these successful



OFFICERS and directors of the Arkansas Telephone Association (l. to r.): R. L. BANKSON, CARL T. MOORE (1958 President), OMAR SANDERS, HUGH WILBOURN, GUS LANE, LES BRYANT, JOE GARRETT, JR., JOHN SHAFFER. Dick Thompson, Lois Kehoe and John Carter were absent when photo was taken.

Copperweld LINE WIRE

TRADE MARK

keeps upkeep down

Also
Right for Carrier
— a Copperweld
Bonus Value!

When Copperweld* Line Wire goes up, it's up to stay. Non-rusting Copperweld has the permanent high strength to resist even the worst weather conditions year after year. Thus, you get longer service life—lower operating costs. At the same time, you get better talking qualities, because Copperweld has the best electrical conductance of any long-span conductor. What more could you ask for in a line wire?

*Trade Mark

COPPERWELD STEEL COMPANY
WIRE AND CABLE DIVISION *Glassport, Pa.*
For Export: COPPERWELD STEEL INTERNATIONAL COMPANY, New York

SOLD BY LEADING DISTRIBUTORS

five years, of converting to dial and extension of plants into rural areas, to the efforts of all those in the industry who were farsighted and diligent and to close cooperation with the staff of the Arkansas Commission.

Judge Robinson said he was privileged to be a part of a Commission that received so very few service complaints, and he contributed this largely to the companies efforts in "customer relations."

He placed the responsibility for better service squarely on the shoulders of the companies, and told them that through better service their net rate of return would climb. He, at the same time, reminded them that the Commission had a job to do, and that industry members must also help the Commission.

He stated that cultivation of friendship of local authorities and legislators can do much toward relieving many of the problems facing the industry.

Ben Smith, merchandising manager of Southwestern Bell, tied his topic, "Merchandising — Its Opportunities," in with the address of Judge Robinson in presenting telephone industry statistics on telephony.

Smith said: (1) research had shown that telephone growth compared to television, radio, refrigerators, had lagged; (2) telephone sales haven't been up to par; (3) telephone management hasn't seen fit to get to the crux of what the people need and want in the way of telephone service.

ARKANSAS Convention Workshop on "New Materials and Construction Methods" was conducted by C. A. GUNN, H. L. GRAVES and CLIFF DAVIS.

George Scharffenberger, president of Kellogg Switchboard & Supply Co., completed the theme of "what's new?" by discussing the future of telephone engineering trends — what the industry may expect 10 years from now, the portions of plants in service that will be obsolete in the future, and the challenge that faces the industry in spanning America and the world with complete communication.

Scharffenberger explained the industrial revolution facing the telephone industry through the phenomenal demand for service, increases in cost of labor and materials, and requirements of expansion capital and rate adjustments; the developments accelerated during the war years, such as the transistor, printed circuitry and application of electronic circuits to telephone switching.

He stressed the revision of engineering viewpoints because of the rapid growth, and the continuity of improved service through better equipment. He felt the telephone industry should be conscious of its responsibilities to customers and explained the industry can profit from recent developments and that it must plan prudently for the future.

The membership was advised of the USITA activities by one of its able vice presidents, Foster B. McHenry, of Jefferson City, Mo.

He urged all companies to actively support the national organization in its endeavors to secure legislative relief for all Independents.

The Arkansas delegation closed its

ARKANSAS Traffic Conference Speaker WINNIE B. BURNETT (standing) points to JEANICE FALLS (sitting) during demonstration.

"most constructive and worthwhile convention" by presenting a plaque to its retiring President, H. R. Wilbourn, Jr., for his untiring efforts for the industry, and by electing the following officers: President, Carl T. Moore. Boone County Tel. Co., Harrison; First Vice President, John Shaffer. Benton City Tel. Co., Gentry; 2nd Vice President, W. L. Bryant, Ark. Associated Tel. Co., Leachville; Secretary-Treasurer, J. D. Garrett, Jr.. Walnut Hill Tel. Co., Lewisville; Executive Secretary, Lois Kehoe, Little Rock.

Directors elected are: Richard L. Thompson, United Telephone Co., Alma; Omer Sanders, Yell County Telephone Co., Danville; L. V. Ritter, Jr., E. Ritter & Co., Marked Tree; S. A. Lane, Western Ark. Telephone Co., Russellville; R. L. Bankson, Southwestern Bell Telephone Co., Little Rock.

After adjournment, the conventioners held a hospitality hour, barbeque dinner, and dance at the Majestic Lodge on Lake Hamilton. — *Lois Kehoe, Executive Secretary, Arkansas Telephone Association.*

Citizens Utilities Holds Top Management Conference

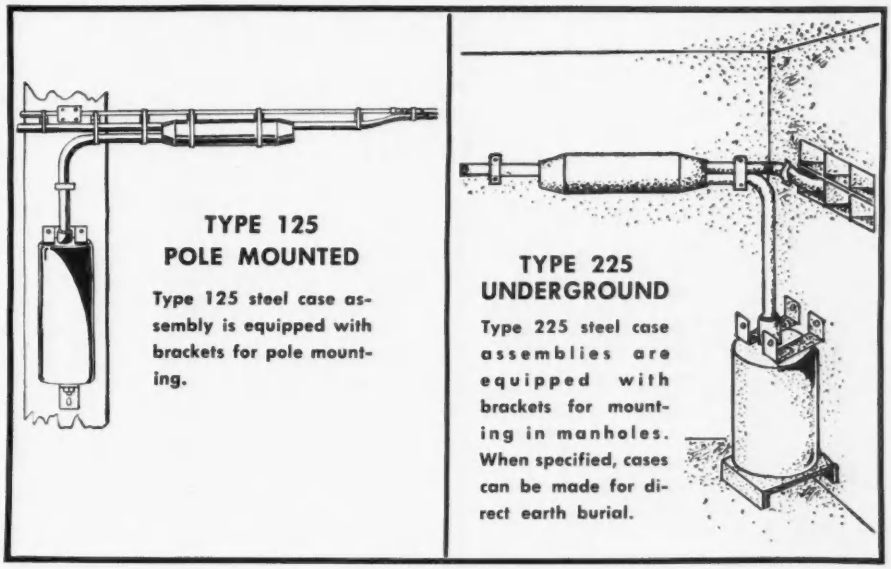
TWENTY-SIX top management personnel of Citizens Utilities Co., Stamford, Conn., conferred together at Guerneville, Calif. during the week of September 29th. Division managerial personnel were assembled from Maine to California and from Alaska to Arizona for the 7-day session with administrative officials from Stamford.

The conference covered the full range of operating, construction, service and financing aspects of the rapidly expanding utility and was climaxed by a banquet on October 4, attended by State and financial leaders.

Richard L. Rosenthal, president of citizens Utilities Co., presided at the meeting. One of the principal items discussed was the problems of financing utility operations and the earnings level required, in view of the present high cost and scarcity of capital.

Citizens Utilities Co. has budgeted over 2½ million dollars for construc-

CEECO LOADING COILS



TYPE 125 POLE MOUNTED

Type 125 steel case assembly is equipped with brackets for pole mounting.

TYPE 225 UNDERGROUND

Type 225 steel case assemblies are equipped with brackets for mounting in manholes. When specified, cases can be made for direct earth burial.

The cable stubs may be either lead or plastic, in standard eight foot lengths. Special assemblies may be constructed to meet other requirements. Longer stub length can be furnished when specified on order.

Voice frequency coils, Type 632(88MH) and 638(44MH) are primarily designed for use on two wire telephone circuits. Type MF10, MF11, 641 and 642 coils can be furnished for inter office and toll cables.

CEECO assemblies give "Life like" voice transmission and reception to your long cable and rural distribution wire circuits. "Life like" telephone transmission is a clear, easily understandable telephone conversation over the necessary frequencies present in the voice to be heard via the telephone in the same volume as in "face to face" conversation. Telephone companies providing such quality service will increase subscribers desire to use "LONG DISTANCE" more often, thus increasing revenue.

Write us for assistance on your loading problems. CEECO loading coils are sold by your telephone equipment supplier.

COMMUNICATION EQUIPMENT & ENGINEERING COMPANY
5646 West Race Avenue • Chicago 44, Illinois
Phone EStebrook 8-3109

ESTERBELLE McLENNAN (at desk) is chief operator at Dixon. This thoroughly modern toll installation can now offer more attention to calls that require services of an operator, and has reduced non-revenue time on all calls to cities not yet on DDD.

tion in 1957 to keep pace with its continuing rapid expansion and increase in demand in the company's service areas.

Citizens Utilities is generally regarded as one of the premier "growth" utilities in the country. During the incumbency of its present management, its revenues have increased to a current level exceeding $7,000,000 annually from $2,418,000 in 1945; and its depreciated investment in plant and facilities has climbed to in excess of $20,000,000 currently from only $6,000,000, 11 years ago.

In the same period, the number of customers served has almost doubled. Finally — and of fundamental importance in permitting the company to raise the capital to finance its expansion — earnings per common share have increased from 18¢ per share in 1945 to $1.12 per share in 1956.

Citizens' unique, two-series common stock capitalization consists of 1,032,480 shares outstanding, divided into Series A and Series B shares. Dividends on the Series A have been paid in stock only, with a market value equal to the dividends paid in cash on the Series B shares. In all other respects, the two Series are identical. The company has over 5,200 shareholders, its share ownership extending throughout the 48 states and in foreign countries.

Illinois Bell Construction To Hold 1957 Pace

ILLINOIS Bell Telephone Co. expects to continue construction activities through next year at approximately an undiminished rate, President W. V. Kahler said last month.

In a quarterly letter to stockholders, the Bell executive estimated this year's outlay for expansion and modernization will total $150,000,000.

"It now looks as though telephone construction may have to be continued through 1958 at somewhere near this same level," Kahler said.

This projection is despite a decline in calls for new telephones, he noted. Recently the company placed in service its 3,500,000th phone. The gain for the third quarter is estimated at 40,000 telephones, bringing the total increase for the first nine months to 130,500.

"This year's rate of gain, just under 700 per business day, compares with last year's 800 per day average, but exceeds the rate of gain for any other first nine month period since 1946," Kahler said.

About 44 out of every 100 phones added so far this year were residence extensions. New orders for main telephones are about 25 per cent under a year ago, reflecting the smaller number of homes, factories and stores being built.

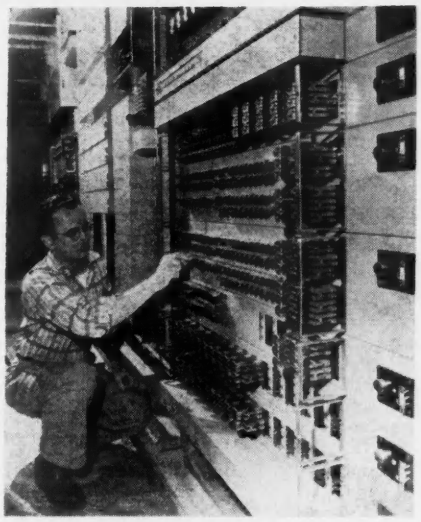
But based on long-term prospects, the factors that necessitate large scale construction activity are still present, Kahler declared.

Currently, he reported, the company has about 24,000 unfilled requests to change to one-party lines or service with fewer parties on the line. Today, nearly half the company's subscribers have private lines, against 18 per cent in 1945.

DDD Proves Popular At Dixon, Illinois

SUBSCRIBERS of the Dixon Home Telephone Co., Dixon, Ill., are

F. S. COAKLEY, manager, Dixon (Ill.) Home Tel. Co., is delighted with results of DDD operation . . . . enthusiastic subscriber reaction and improved earnings.



JAMES RADKE, Dixon plant engineer, kneeling by Readout bay of toll ticketing equipment. Features greatly appreciated by operating personnel are the erasable and reusable magnetic recording medium and the flexibility of the routing and rating equipment.

dialing San Francisco, Washington, San Antonio or any city having full Direct Distance Dialing with the same ease as calling their neighbor across the street. They have been doing this since May 5 this year.

"At first," relates Manager F. S. Coakley, "some subscribers were a little timid . . . afraid they might dial a wrong number and find they were talking to Portland, Ore., when they really wanted Cleveland. But in August the number of subscriber-placed toll calls had climbed to 6226 and has increased steadily ever since."

"We expect a tremendous jump in DDD calls when the Bell company converts Sterling, Illinois, our neighboring city," Mr. Coakley concluded.

General of S. W. Completes Springhill, La. Cutover

WITH THE recent conversion of Springhill, La., to dial operation, General Telephone Co. of the Southwest became 100 per cent dial operated in the state of Louisiana, according to G. Howard Briggs, the company's operating vice president.

Concurrent with the conversion was the establishment of extended area service between Springhill and the exchanges of Sarepta and Shongaloo. The Cullen, La., exchange was eliminated at the time of the cutover and is now served out of the Springhill exchange. Springhill became an

NEW,

IMPROVED DESIGN!

Extended mounting slot now fits ALL standard 12" or 8" pin spacings . . . eliminates costly re-boring.

Case® ALUMINUM CROSS-ARM TRANSPOSITION BRACKETS.

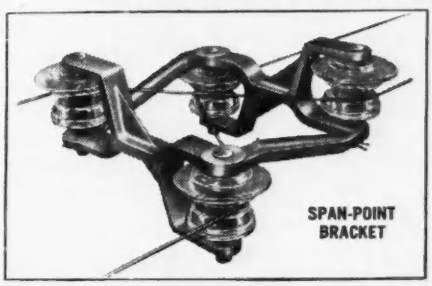
Many new carrier circuit designs call for a reduction in wire spacing from 12" to 8". Normally this means thousands of new pin holes must be bored . . . an expensive and time-consuming job. Now . . . the new, improved Case cross-arm transposition bracket with the extended mounting slot fits all standard 12" or 8" pin spacings . . . eliminates the need for costly re-boring, and saves you thousands of dollars per year. If you are planning to re-space and transpose wires from 12" to 8" spacings, be sure to check first with Case.

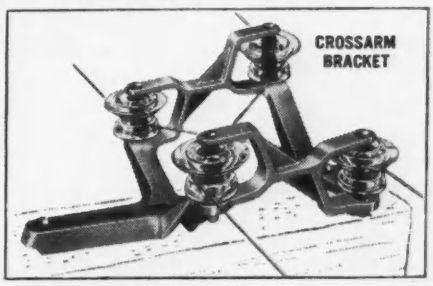
SOLD BY LEADING DISTRIBUTORS IN THE U. S.

CASE BRACKETS . . . STRONG, LONG-LASTING, ECONOMICAL, ESPECIALLY ADAPTED FOR CARRIER-CIRCUIT CONSTRUCTION

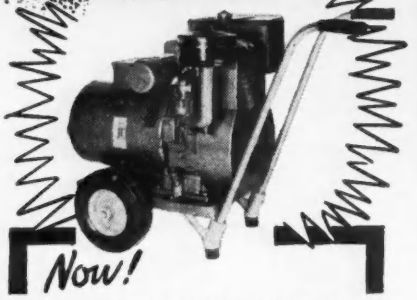
Write today for free illustrated brochure.

TRANSANDEAN ASSOCIATES, INC.
304 MAIN STREET, ORANGE, NEW JERSEY





Katolight
PORTABLE POWER PLANTS

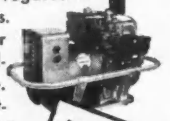


Now!
CREWS HAVE READY POWER FOR ANY JOB... ANYWHERE!

You save time . . . you speed work . . . because with Katolight Portable Power Plants, crews have "plug-in" electricity instantly available to operate all types of tools, equipment, lights, right on the job, regardless of location or conditions.

Sizes and models for every portable, stand-by or continuous use. Dolly or Skid mounted models from 350 watts to 75 K.W.A.C. Up to 500 KVA on request.

Dependable Electrical Equipment Since 1928!



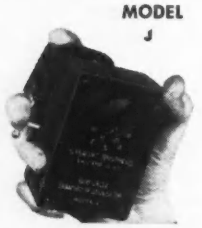
WRITE TODAY FOR NEW FREE FOLDER!

KATOLIGHT CORPORATION
Box 891-18 . . . Mankato, Minnesota

Stewart
TEST EQUIPMENT
Locates Trouble FAST

1000 Cycle TRANSISTOR OSCILLATOR

MODEL J



A Stable power source, for locating trouble in carrier systems and audio equipment.

Self contained mercury battery with operating life over 700 hours

Pocket size, 2¼" x 3" x 4", Wt. 10.3 Oz.

STEWART BROTHERS
Division of Instrument Laboratories
Chicago 10, Illinois

MAYOR CHARLES McCONNELL, Springhill, La., inspects the city's new dial equipment which was recently cut into service.

unattended dial office with the master office at Minden, La. General serves eight exchanges in Louisiana with about 4,500 stations.

The conversion and establishment of EAS represents an expenditure of nearly $600,000 in this area by General of the Southwest.

Springhill was the 182nd of General's 263 exchanges to become dial operated and will bring the percentage of dial telephones to about 80 per cent of the company's over 250,000 telephones in Texas, Louisiana, Arkansas, Oklahoma, and New Mexico.

Public Service Commission Accepts Tariff Amendments

THE NEW YORK Public Service Commission has accepted the following tariff amendments: —

(1) Oriskany Falls Telephone Corp. to increase rates to its subscribers by about $3,100 annually. This is the company's first rate increase since 1939. Under its new tariff, monthly residential charges will be increased by $1.00 for individual lines and by 50 cents for all other classes of service. Business rates will be increased by $1.00 monthly for individual lines, by 75 cents for party lines and by 50 cents for extension stations.

(2) The Dunkirk & Fredonia Telephone Co. to increase rates by an estimated $33,000 annually. The company serves about 4,300 telephone stations in and near Fredonia. It also provides toll-free service for its subscribers to customers of the Dunkirk exchange of New York Telephone Co. The new tariff provides for these monthly increases: Residential service, individual line, from $4.00 to $5.50; two-party, from $3.25 to $4.00; four-party and ten-party rural, from $2.75 to $3.25; extension station, from $1.00 to $1.25; business service, individual line, from $7.75 to $9.75; two-party, from $6.50 to $8.00; four-party, from $5.50 to $6.00; ten-party rural, from $4.75 to $5.25; extension station, from $1.25 to $1.50.

(3) Truxton & Cuyler Telephone Co. will increase its rates by about $2,000 annually. This company serves 260 stations in and near Truxton, Cortland County.

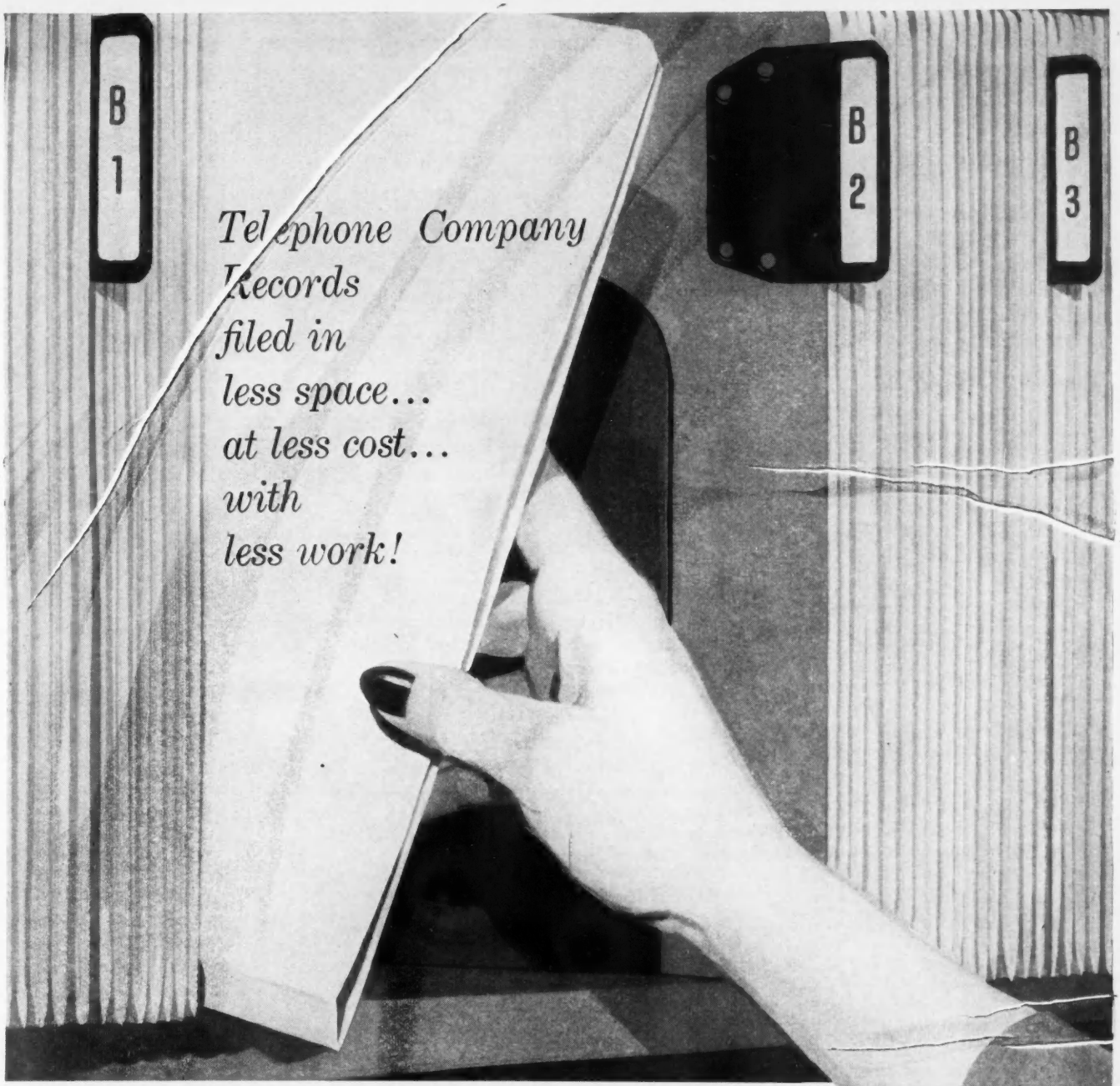
W. E. Carlson Dies

WALTER E. CARLSON, president and manager of the West Ohio Telephone Co., Covington, Ohio, passed away Sept. 21 after a protracted illness.

Carlson was well known in Independent telephone circles, with long experience in engineering, installation, sales and — since 1950 — in operating management of properties in Ohio and Michigan. A program of modernization had been completed in Pleasant Hill, Ohio in 1953 and St. Paris, Ohio, early this summer; it was Carlsons last hope that he would live to see the third exchange (Covington) cut over to dial. Donald K. Carlson will carry this out for his father.

Walter Carlson was a sales representative for Stromberg-Carlson from 1936 to 1949, serving Western Ohio. Previous to this he had been in the installation department from 1924 to 1927, where he worked side by side with T. C. Thompson installing main exchanges for the Rochester (N.Y.) Telephone Corporation. The intervening years were spent in the engineering departments of the Tri-State Telephone Co., St. Paul, Minn., and the Michigan Bell Company's Detroit office. During World War I he served with the 16th Army Engineers Corps.

His son, Donald K. Carlson, an experienced telephone man, has been vice-president of the West Ohio Telephone Co., manager of the Morenci (Michigan) Home Telephone Co., and is currently president of the Michigan Independent Telephone Association.



OPEN SHELF FILING

by Remington Rand

DIVISION OF SPERRY RAND CORPORATION

Compared with conventional 5-drawer file cabinets, Open Shelf Filing saves up to 50% of costly floor space . . . filing is 43% faster . . . finding is 57% faster. The cost of installing Open Shelf Filing is substantially cheaper compared with conventional file cabinets of equivalent capacity. Open Shelf Filing can be used for any type of record in telephone company operations and with any type of filing system: alphabetic, numeric or terminal digit.

Clerical accuracy and productivity are increased as the fatigue of pulling, closing or struggling with overloaded file drawers is eliminated. Any number of clerks can use the same filing section at the same time without interference to each other. Open Shelf Files can be placed right near the clerks using them and can serve as effective partitions between departments. The illustration (right) shows an Open Shelf Filing installation at an operating telephone company in Los Angeles, Cal.

For more detailed information on how Open Shelf Filing can cut your filing costs while increasing filing efficiency, write to Room 2171, 315 Fourth Avenue, New York 10, N. Y.

New "Signal Kore" Wire Rope Transmits Voice or Signal Communications

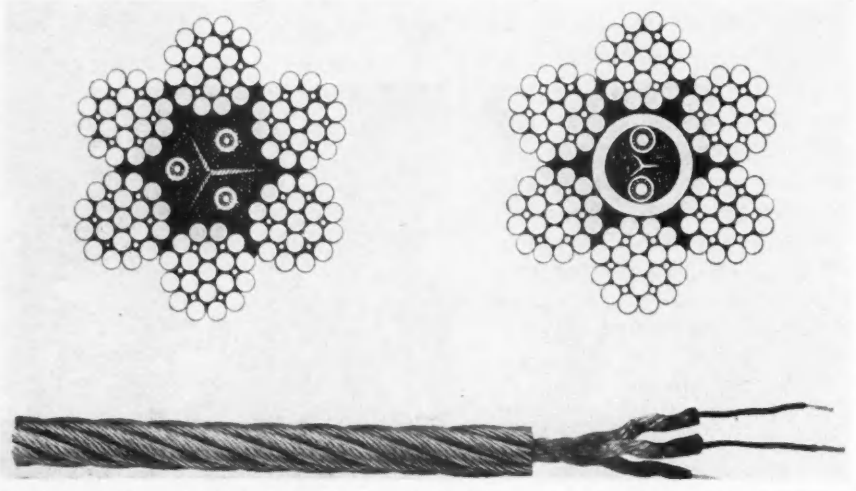
Signal Carrier Wire Rope

WIRE ROPE Division of American Chain & Cable Co., Inc., Wilkes-Barre, Pa., has announced production of "SignalKore Wire Rope," a high strength and sturdy wire rope that can be utilized to transmit continuous communication instructions through its center core as well as transmit force for hoisting and other materials handling operations.

According to the manufacturer, SignalKore was made possible by the development of a practical method in which copper wire conductors are imbedded in a fiber core, which is then "laid-up" in a rugged steel wire rope. Thus, hoist ropes and other operating cables can be used to transmit low voltage current for continuous voice or signal communication through the wire rope itself.

SignalKore Wire Rope can be used with standard telephones or the sound-powered telephones. In a test installation at a mine, this signal-carrying rope has enabled engineers to keep in constant touch with the mine skip. It has made operations safer and faster and in some instances has replaced and supplemented established blinker and buzzer systems. As a result, much smoother and more controlled operating cycles have resulted.

The product is available in 11 rope diameters in sizes of 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4, 1 7/8 and 2 inches inclusive. Breaking strengths for the smallest diameter is 47,600 lb. for the Bright and Galacco finish and 42,840 lb. for the galvanized finish and ranges to 320,000 lb. and 288,000 lb. respectively for the 2-inch diameter rope.—For complete data, *Check New Product* 200 *on Readers' Service Coupon. Page* 91.

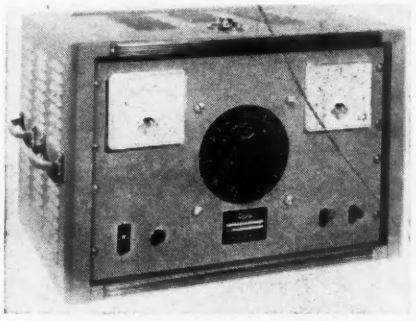


Right — wire rope with 2-conductor core. Left — rope with 3 conductor core.

DC Power Supply

A NEW, 125-volt DC power supply, providing high effeciency by the use of Germanium Rectifiers, has been developed by Electro Products Laboratories.

Called the "GFA" Universal, the unit converts AC current to DC for testing and servicing industrial DC equipment and offers a continuous variable 0 to 125 volts up to 10 amperes with less than 1% ripple at top load. This makes it possible to test all equipment under almost any voltage input condition. Its gray wrinkle finish steel cabinet measures 22" x 14 1/4" x 15 3/4".



New, 125-volt D C power supply.

Operating on 115 volt 50/60 cycles input, this unit is particularly useful in the testing of telephone circuits, plating operations, relays and solenoids, as well as radios and electronic equipment in aircraft, autos, and Marine craft, according to R. C. Crossley, Electro's sales manager.

The use of a single control for different load conditions over a specific range, as well as choke input and Pi type filters, places the "GFA" among the most modern heavy-duty but low cost power supplies on the market today, Crossley pointed out.

For complete information on the Model "GFA" Universal power supply, *Check New Product* 201.

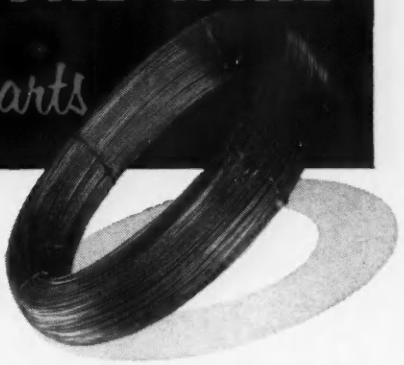
Phase Voltage Converter

KATO ENGINEERING CO. has announced a new phase voltage converter. Weighing only 39 pounds, this compact, light-weight converter changes single-phase, 115-volt, 60-cycle AC to three-phase 230-volt, 60-cycle current. Frequency is held constant within a fraction of a cycle.

The aluminum alloy frame houses capacitator starter as well as both

THE MAKING OF USS AMERTEL TELEPHONE WIRE

A story of Quality in four parts

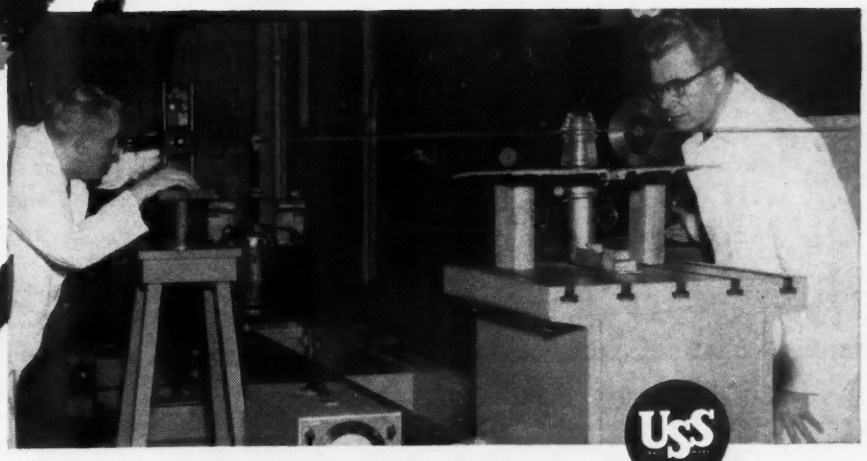


PART IV:
Testing and Research

TO MAINTAIN the high standard of quality of USS Amertel high tensile wire, constant testing and research is necessary. Extensive process control testing for analysis, mechanical and electrical properties and for the zinc coating weight is performed during the manufacturing operations. This is followed by verification inspection and testing of the finished wire to assure that you receive the finest quality telephone and telegraph wire possible.

Constant research into the steelmaking process, heat-treating, drawing and coating methods conducted in our own laboratories results in the continued high quality of Amertel telephone and telegraph wire. Specialized studies of vibration fatigue properties in our modern Fatigue Laboratory provide technical information to further improve line construction methods and thereby reduce construction costs. This thorough testing is your assurance of a reliable, high quality product.

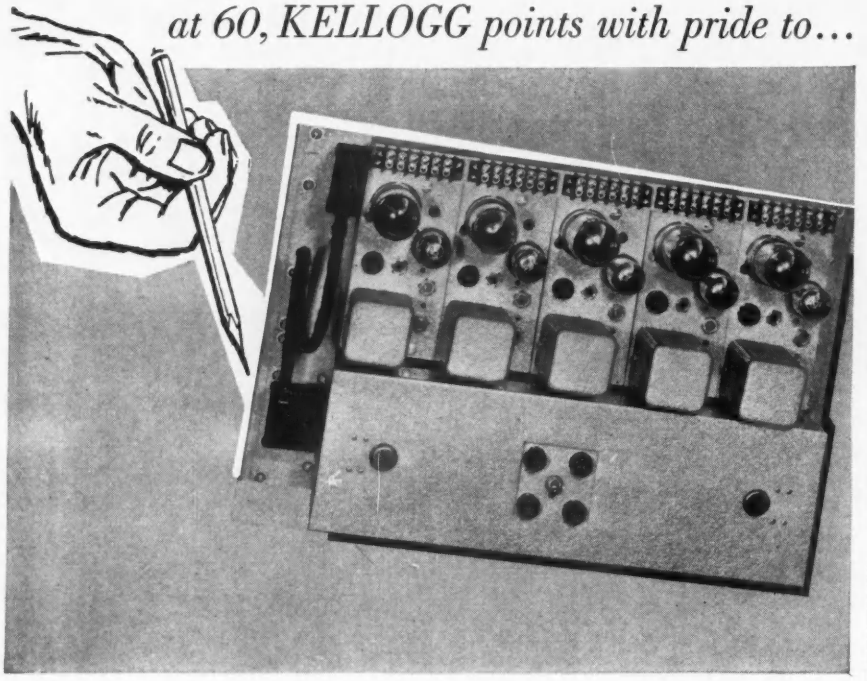
AMERICAN STEEL & WIRE DIVISION
United States Steel, General Offices: Cleveland, Ohio
Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors
Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, New York



USS TIGER BRAND AMERTEL *Telephone & Telegraph Wire*

UNITED STATES STEEL

at 60, KELLOGG points with pride to...



AN ELECTRONIC RINGING GENERATOR THAT ELIMINATES CROSS-RING PROBLEMS

KELLOGG ELECTRONIC RINGING GENERATOR . . . Less maintenance . . . No moving parts . . . No contacts to clean or replace. Plug-in components . . . Not damaged by shorted lines . . . Experience proves tube life normally exceeds 18 months. No Cross-Ring problems . . . Extreme frequency stability . . . precise, easily adjustable frequencies. Flexibility . . . provides any combination of 5 or fewer ringing frequencies. All ringing frequencies are independent of each other and/or frequency of power source. Efficient . . . all frequencies continuously available . . . furnishes enough power for 1000 or more lines. Compact . . . mounts on standard 19″ relay rack . . . requires only 12¼″ of vertical space.

KELLOGG
A DIVISION OF I T & T

KELLOGG SWITCHBOARD & SUPPLY COMPANY
A Division of International Telephone and Telegraph Corporation
6650 S. Cicero Ave., Chicago 38, Ill.
Phone: POrtsmouth 7-6900

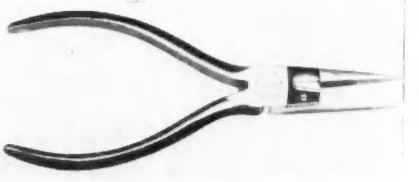
output and input receptacles, and is about 10 inches high without carrying handle. Intake and exhaust air vents are located in lower halves of endbells, making the converter drip proof. Heavy duty grease sealed ball bearings produce very little noise.

Equipped with vibration dampeners, the machine can be used to change phase and voltage for sound track equipment if placed a few feet away from recording equipment. Other models and sizes, now in the engineering stage, developed to meet growing demands for on-the-spot phase and voltage conversion, will soon be available.

For complete information write Kato Engineering Co., Dept. T-E-M, Mankato, Minn., or *Check New Product* 202.

Shear Cutting Plier

MATHIAS KLEIN & SONS has developed and applied for a patent on a new long nose, shear cutting plier. This unique principle permits clean cutting of hard or "dead" soft



Long-nose, shear-cutting plier.

wire. The shearing blade is quickly removable and may be replaced if necessary in a matter of seconds. Ideal for tough assembly jobs. Furnished standard with self-opening coil spring and 1/16″ diameter point. Catalog No. 208-6C.

Complete information can be secured by *Checking New Product* 203.

Electrical Mast Kit

NEW literature on electrical service entrance mast kits is offered by Porcelain Products Co. The 4-page folder describes the series 2075 and 2085 kits as well as special kits available to meet all local needs.—*Check New Product* 204.

Self Fusing Splicing Tape

THE OKONITE CO. has announced production of a new weather resistant, self fusing tape for splicing and terminating rubber and plastic cables. Made of an entirely new formula developed in the Okonite labor-

NEW WEATHER resistant, self fusing tape for splicing and terminating rubber and plastic cables is available in five colors for phase and circuit color-coding.

atories, the new Okoweld tape while possessing optimum electrical characteristics is resistant to weather chemicals, flames and mechanical abuse. It can jacket as well as insulate. It comes in five colors for phase and circuit color-coding.

According to the manufacturer, upon application the new tape rapidly fuses into a solid, homogeneous wall around the connection. No adhesives are involved. The Okonite Co. states that Okoweld is listed by the Underwriters' Laboratories, and is the only self-fusing tape approved by them for use as ". . . . sole insulation and covering of joints and splices in electrical conductors."—For complete data and free sample, *Check New Product* 205.

Conductor Wire

A NEW, HIGH temperature conductor wire with all the physical qualities of steel and having the same conductivity and temperature coefficient as expensive nickel wire is now available from Continental Wire Sales Co. Developed to improve wire performance on practically any job where extreme heat is a problem, this new Calorel Conductor Wire is easily weldable by either flame or resistance method.

This practical, economical solution for wiring appliances, amplifiers, resistors, etc., Calorel Wire offers many advantages as an electrical conductor at temperatures up to 1500° F. Basically pure iron, coated with special aluminum and aluminum-iron alloy, the manufacturer claims Calorel Wire has approximately six times the resistance of copper and increases in resistance at about four times in 1000° F. With no embrittlement temperature, low corrosion and oxidation characteristics, Calorel Wire meets all the requirements for conduction under extreme heat conditions.

To obtain illustrated literature, suggested applications and price information, *Check New Product* 206.

READER'S SERVICE DEPT.
T - E - M
11 - 15 - 57

■ PLEASE PRINT
NAME: .....
TITLE: .....
COMPANY: .....
ADDRESS: .....

Telephone Engineer Publishing Corp.
7720 N. Sheridan Road
Chicago 26, Ill.

■ **Please send me information on the following items: — (Check Items Wanted)**

NP 200..... NP 201..... NP 202..... NP 203.....
NP 204..... NP 205..... NP 206.....

SERVICES AND SUPPLIES

ADV. 1..... ADV. 2..... ADV. 3..... ADV. 4..... ADV. 5.....
ADV. 6..... ADV. 7..... ADV. 8..... ADV. 9..... ADV. 10.....
ADV. 11..... ADV. 12..... ADV. 13..... ADV. 14.....

ADVERTISING, Directories — *General Telephone Directory Co., 1800 Busse Highway, Des Plaines, Ill.*—[ADV. 1]

BELTS — CLIMBERS — COMPLETE LINEMEN'S EQUIPMENT, *W. M. Bashlin Co., Bashlin Bldg., Grove City 1, Pa.*—[ADV. 2]

BOOTHS—Acoustic Telephones — *Sherron Metallic Corp., 1202 Flushing Ave., Brooklyn 6, N. Y.*—[ADV. 3]

BORING MACHINES, EARTH — *Highway Trailer Co., Edgerton, Wisc.*—[ADV. 4]

CORDS, Switchboard (with or without plugs), Instrument (retractable and regular) and Operators — *Commercial Cord & Supply Co., Inc., 26 Main St., Clifton Springs, N. Y.*—[ADV. 5]

CORDS, Switchboard & Telephone — *Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago 41, Ill.*—[ADV. 6]

PIPE PUSHERS — *Giant Manufacturing Co., South 6th St., at 12th Ave., Council Bluffs, Iowa.*—[ADV. 7]

POLES, Southern Yellow Pine — *Taylor Colquitt Company, 217 E. Main St., Spartanburgh, S. C.*—[ADV. 8]

POLES, Southern Yellow Pine — *Texas Creosoting Co., Orange, Texas.*—[ADV. 9]

PROTECTIVE EQUIPMENT — *Reliable Electric Company, 3145 Carroll Avenue, Chicago 12, Ill.*—[ADV. 10]

REBUILT TELEPHONES & SWITCHBOARDS — *Tallen Co., Inc., 159 Carlton Ave., Brooklyn 5, N. Y.*—[ADV. 11]

TELEPHONE EQUIPMENT AND SUPPLIES — *Telephone Repair & Supply Company, 1760 Lunt Avenue, Chicago 26, Ill.*—[ADV. 12]

WIRE, Insulated — DATED DROP WIRE — Neoprene or Weatherproof — *Alphaduct Wire & Cable Co., New Brunswick, N. J.*—[ADV. 13]

WIRE, Insulated Drop and Bronze or Copperweld — *Acorn Insulated Wire Co., Inc., 36 Freeman St., Pawtusket, R. I.*—[ADV. 14]

Wood Preservers' Assoc. Issues Revised Standards

TWO NEW and 12 revised standards for the American Wood Preservers' Association (AWPA) "Manual Of Recommended Practices" have been issued, according to W. W. Barger, AWPA president. Barger is chief inspector, tie and timber treating department of The Atchison, Topeka & Santa Fe Railway Co. in Topeka, Kans.

The manual is a technical handbook of value to wood-preservative manufacturers, producers and users of treated wood products, inspectors, chemists, etc.

The new standards have been sent to all those who have purchased a copy of the AWPA MANUAL. The revisions, or partial revisions, include in some cases only editorial changes, but most of the items involve new or revised specifications approved at the 1957 Annual Meeting of the Association, which have subsequently been confirmed by vote on a letter ballot to all (approximately 1800) members of AWPA.

Of particular note is the issuance for the first time of standards covering the requirements for preservative treatment of crossties by both pressure and non-pressure processes. Other changes include:

(1) Addition of pentachlorophenol in standards for treatment of Pacific Coast Douglas fir, western hemlock, western larch, Intermountain Douglas fir, oak, and black or red gum lumber and timbers; Pacific Coast Douglas fir piles and posts; and western larch, Intermountain Douglas fir, and western red cedar poles.

(2) Revision of the standard method of distillation of creosote.

(3) Revision of the percentage requirements in the composition of acid copper chromate (Celcure®) and in the composition of tanalith (Wolman Salts®).

The AWPA MANUAL is available at the Association headquarters, 839 Seventeenth St., NW., Washington 6, D. C., price $8.50 plus postage.

Leich Sales Offers New Colored Telephone Display

LEICH SALES CORP. has announced an attractive display promoting colored telephones which is now available to telephone companies.

This display gives the telephone company a dramatic selling tool which can be used as a counter card or window display. Telephone company business offices, store windows, and other heavily travelled places, are suggested locations.

The display features 10 diamond-shaped patches of color that match the hues of Leich's telephones. Three new colors — white, pink, and light blue — are included.

A Leich 100 telephone fits into a cut-out area of the display.

The poster reads, "For Gracious Living . . . Telephones in Sparkling Color!" It also requests subscribers

THIS NEW colored telephone display is now available to telephone companies without charge.

to, "Ask At Your Telephone Company Business Office."

Printed instructions on the back of the display explain the simple steps needed to assemble it. When assembled the display is 20 inches wide by 11 inches high.

Telephone companies can obtain the display without charge by writing Leich Sales Corporation, 427 W. Randolph Street, Dept. TE&M, Chicago 6, Ill.

V. W. Riley Appointed District Sales Manager

VROMAN W. RILEY has been appointed district sales manager of the Central Area for Motorola's Microwave and Industrial Control Products Department. According to Walter C. Byrne Jr., national sales manager for Microwave and Industrial Control Products Riley will be responsible for sales management of these products in the Central States which includes the area bounded by the Dakotas, Nebraska, Missouri, Kentucky, and Ohio.

Prior to his new assignment Riley spent two and a half years as a development engineer in power line carrier engineering before joining the sales department as an Industrial Communications Engineer. He holds an electrical engineering degree from the Illinois Institute of Technology.

Argo and Goodall Promoted By Chance Co.

PROMOTIONS for two members of A. B. Chance Company's field sales staff have been announced by L. C. Hansen, the company's director of marketing.

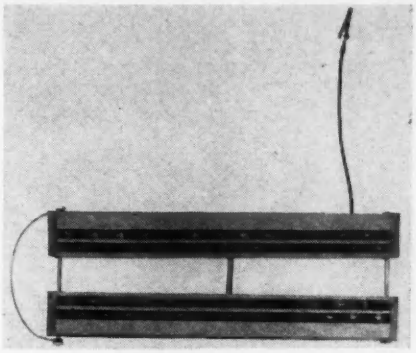
Dwight E. Argo, Southwest regional sales manager, will be transferred from Dallas, Texas to San Francisco to be regional sales manager for the 11 Western states.

Albert B. Goodall, Levittown, Pa., will be promoted from district sales manager to head the Southwestern region. The new assignments will be effective about Nov. 1.

Argo will succeed E. G. Ryman, who becomes general manager of the Carey, Ohio, plant of Porcelain Products, Inc., a Chance subsidiary.

Argo joined the Chance sales staff in 1941. He worked in the Centralia sales office from 1942 to 1944, then returned to field sales. He advanced from salesman to senior salesman to district sales manager and, in 1954, was promoted to regional manager.

Goodall has been with Chance since 1948, starting as a trainee salesman. He worked as a sales representative, and as application engineer in the Centralia office, before becoming a district sales manager in 1956.



A NEW ONE-MAN Terminal Stub Tester has been announced by Murphy Engineering Laboratories, Houston, Texas. According to the manufacturer, the new tester will save one man-hour on each 50-pair lateral where two 26-pair terminals cover the entire complement. It is instantly adjustable to fit either the type NC-26 or NF-26 terminals and can be built to fit any terminal. It can be applied in 15 seconds. This instrument has already been field tested and is available for delivery within 30 days from order. For complete data write Murphy Engineering Laboratories, 4419 Tulsa, Dept. TE&M, Houston, Texas.

Bishop Announces Addition Of Five Sales Organizations

BISHOP MANUFACTURING CORP., Cedar Grove, N. J., manufacturers of Bi-Seal and other electrical tapes, has recently added two new sales outlets on the West Coast, one in the Rocky Mountain area and two in the Southeast.

Waltham, De Witt & Krusi, San Francisco, Calif., will handle Bishop products in northern California and parts of Nevada; the Industrial Engineering & Equipment Corp., Los Angeles, Calif., will represent Bishop products in southern California and Arizona; and the J. C. O'Donnell Co. of Denver, Colo., will cover sales in the Rocky Mountain states.

In the Southeast, Sheldon Storer & Associates, Cincinnati, Ohio, will cover southern Ohio and Kentucky; the Public Service Supply Co., Inc., Cleveland, Ohio, will cover northern Ohio.

Miniature Repeaters Used For Telephone Transmission

"UNPRECEDENTED service demands" on telephone companies have resulted in the development of miniature transistorized repeaters to serve as an economical means for the extension of transmission ranges. Known as negative impedance type repeaters, they also permit the reduction of cable gauges in telephone company local offices.

This was the report of A. S. Howell, of the Stromberg-Carlson Company, Rochester, N. Y., in a paper prepared for presentation before a session on wire communications during the Fall General Meeting of the American Institute of Electrical Engineers.

The electrical function of the re-

DWIGHT E. ARGO

ALBERT B. GOODALL

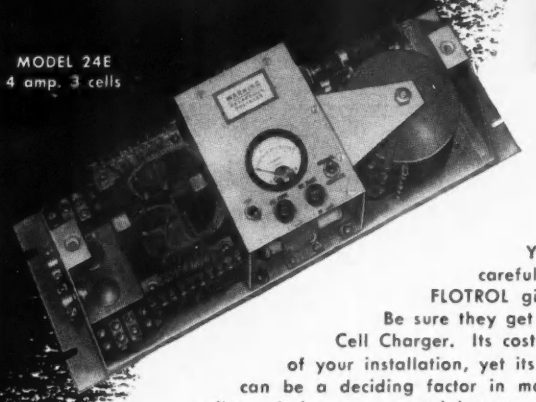
PROTECT YOUR END CELLS

ASSURE LONG LIFE AND FULL RESERVE CAPACITY with

FLOTROL

END CELL CHARGERS

MODEL 24E
4 amp. 3 cells



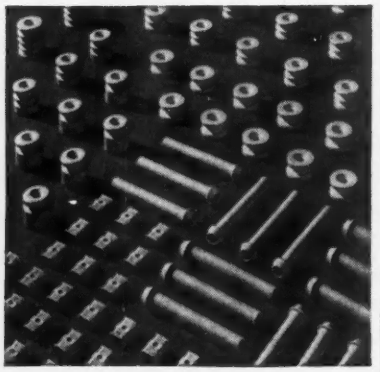
Your end cells deserve the same careful, gentle treatment that a FLOTROL gives to your exchange battery. Be sure they get it by installing a FLOTROL End Cell Charger. Its cost is a small fraction of the cost of your installation, yet its maintenance of your end cells can be a deciding factor in maintaining service to your subscribers during a commercial power failure. Models available for two, three, and four cell batteries in current ratings from 3 amperes to 20 amperes. FLOTROL chargers for 12 volt engine starting batteries are also available in ratings from 3 amperes to 20 amperes.

LORAIN Products Corporation

FLOTROL — PARTNERS IN DEPENDABILITY — SUB-CYCLE

1122 F. STREET • LORAIN, OHIO • TELEPHONE 81171
POWER EQUIPMENT FOR COMMUNICATIONS AND INDUSTRY

PORCELAIN PRODUCTS
TELEPHONE INSULATORS
. . . The RELIABLE Line



Telephone industry acceptance has *proved* Porcelain Products . . . the reliable line of telephone insulators. Porcelain Products assures unvarying uniformity . . . strength . . . precision manufacture and rigid inspection—always dependable. A complete line for every application. Keep your service standards high—with Porcelain Products' telephone insulators. Backed by 60 years experience producing porcelain insulators. Ask you jobber or write us direct.

PORCELAIN PRODUCTS, INC.
FINDLAY, OHIO

Removable and Replaceable Upholstery

With tubular steel base as shown
$29.95
ZONE 1
($36.00 with fiber glass base)

Upholstery on this low priced Sturgis chair can be removed for cleaning or replacement. Here is the special news! Sturgis has developed a built-in device which helps apply cleaned or replacement covers with a tight, neat, factory-like fit. Chair is fully adjustable . . . with lots of foam rubber in seat and backrest for daylong comfort and efficiency. The Sturgis Posture Chair Company, Sturgis, Michigan. Address inquiries to the company's General Sales Offices, 154 E. Erie Street, Chicago 11. Illinois.

Sturgis posture chairs

peaters, which are of the series and the series-shunt type, he said, "is to provide transmission gain when inserted in a two-wire telephone line. Provisions for gain adjustment are adaptable to all line facilities normally found in the telephone outside plant. The circuit design is such as to minimize changes in gain over the range of expected environmental conditions."

The repeaters were developed in miniature form, Howell pointed out, because demands for new facilities often create serious space problems, particularly when required equipment must be installed in existing bays. The miniaturization of the repeaters is made possible by circuit application of the versatile transistor as the active element in conjunction with printed wiring board techniques. They are entirely powered from 48 volt central office battery.

D. C. Gibson, president, Leich Sales Corp., Chicago, has announced the appointment of JAMES A. BRANDT, JR., as the new Leich representative in the state of Wisconsin. Brandt succeeds J. D. Kratz, Sr., who is retiring. Kratz, who represented Leich for eight years, is very well known throughout the state. He will continue to operate his own telephone company in Footville, Wis. Brandt has been assistant to the manager of the Central District in Leich's Chicago office. He has handled much of the correspondence and telephone calls from telephone companies in Wisconsin, so he will be calling on many people with whom he has worked in the past. Brandt and his wife will live in Beaver Dam, Wis.

D. C. Gibson, president Leich Sales Corp. Chicago, has announced the appointment of THOMAS A. MARKERT as the Leich representative in the state of Ohio. According to Mr. Gibson the addition of Markert is part of an expansion program which will give Leich customers improved service. A new warehouse in Tampa, Fla. was recently opened. Another will be inaugurated in the East in the near future. Markert, prior to coming with Leich, sold equipment to the telephone industry for over five years.

Hawaiian Tel. Completes Dial Conversion Program

HAWAIIAN Telephone Co., operating more than 160,000 telephones, has completed its full conversion to dial operation. The firm, which serves the entire territory, pioneered in the adoption of Strowger dial equipment as long ago as 1910.

The last magneto telephone in the islands has been replaced by Strowger equipment at Kamuela, on the "Big Island" of Hawaii. The community, located in the rich range country of the Waimea Plateau, is the site of the second largest cattle ranch in the world.

Hawaii has long played a historic role in the pioneering of telephone service. The Islands' first telephones were installed on the island of Maui in 1878 . . . only three years after Bell first managed to transmit speech sounds over a wire. In 1883, King Kalakaua, then monarch of the islands, chartered the firm now known as Hawaiian Telephone Company.

In 1898 Hawaii was annexed as a

Another dial conversion includes C & D Batteries

Lexington Telephone Co. installs latest equipment

Residents of Lexington are proud of this modern, new communication center.

Here in the famous Blue Ridge country of Virginia, Lexington serves more than 6,000 subscribers. By its choice of C & D batteries, Lexington assured itself of:

1. Long battery life—due to extra thick, triple insulated plates.

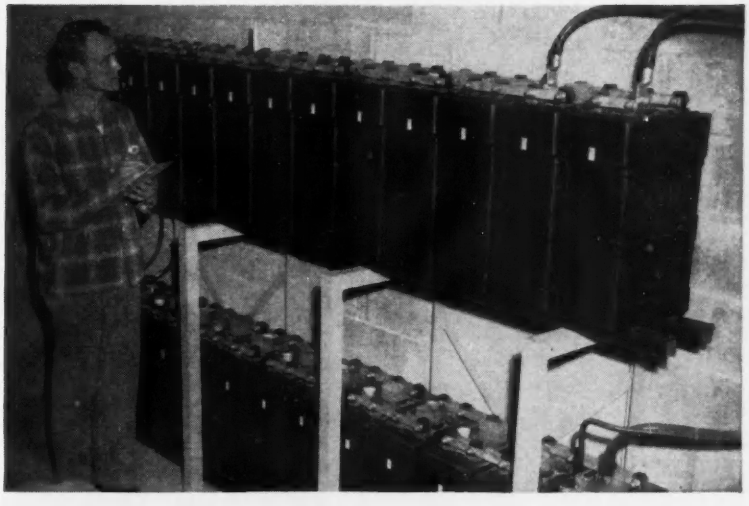
2. Extra safety—because C & D's Saftee-Vent prevents accidental battery explosions.

3. Easier maintenance—exclusive suspended and supported plate construction eliminates leaks due to internal stress.

Get complete details!

Bulletin T-530 tells all about PlastiCal (lead-calcium) batteries. Bulletin T-531 has the complete facts on C&D PlastiCell batteries.

Dependable power for the new XY dial system at the Lexington Telephone Co. is provided by a C&D 26 cell, Type CT-15 battery, rated at 840 Ampere Hours at the 8 Hour Rate.



C&D BATTERIES, INC.

of Conshohocken, Pa.

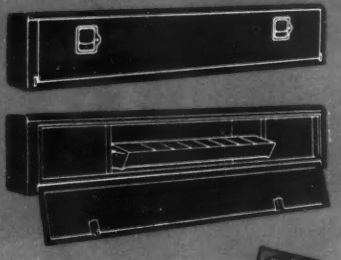
SINCE 1906

SALES AND SERVICE OFFICES IN PRINCIPAL CITIES FROM COAST TO COAST

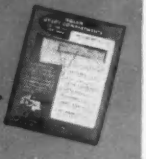
HOLAN
Utility
COMPARTMENTS

Now...
YOU CAN DOUBLE THE UTILITY OF YOUR PICK-UP TRUCK

Holan utility compartments save tool-searching time, protect tools, discourage pilfering, increase carrying capacity . . . and they are easily installed in a few hours. Holan utility compartments are available in 3 sizes—72″, 84″ and 105″ long. All are made of high-tensile steel and have Holan flush-type handles.



Write for complete utility compartment data.



J.H. HOLAN CORPORATION
4100 WEST 150TH STREET
CLEVELAND 11, OHIO

OTHER PLANTS: GRIFFIN, GA.; PHOENIX ARIZONA. BRANTFORD, ONTARIO

To: J. H. Holan Corporation
4100 West 150th Street
Cleveland 11, Ohio

Please send me complete data about:
☐ Holan Utility Compartments
☐ Holan Service Bodies

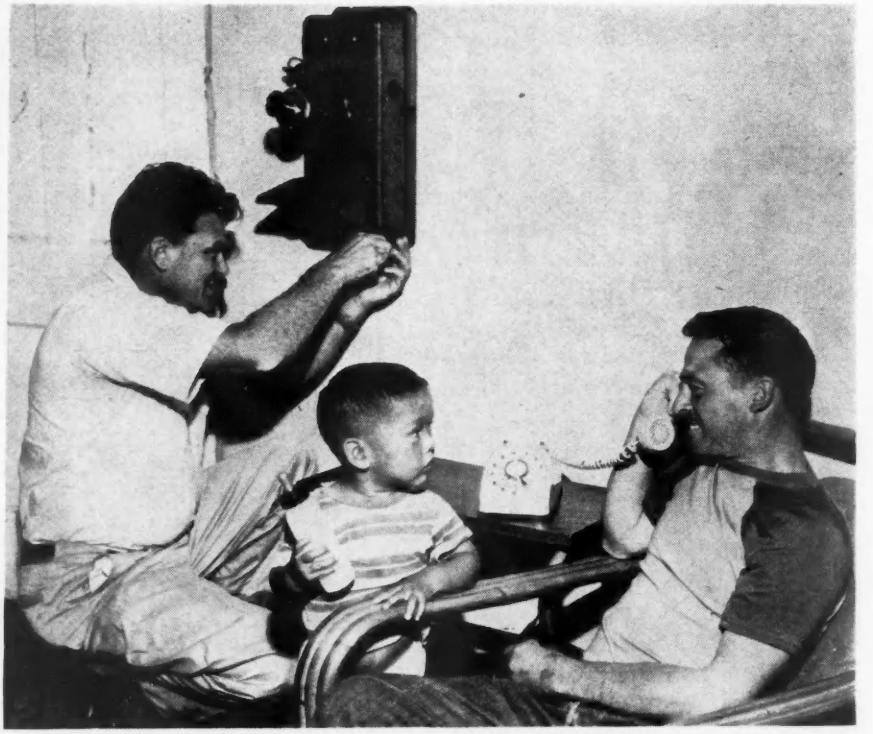
Name_____Title_____
Company_____
Address_____
City_____Zone_____State_____

The Hawaiian Telephone Co. has been completely converted to dial operation. Pleasant trans-Pacific operators handle calls from Hawaii to cities throughout the world.

Territory by the United States and 12 years later installed one of the early Strowger dial exchanges. The Hawaiian Telephone Company, known as Mutual Telephone prior to 1954, has kept pace with the swift economic growth of the Territory and, at the same time, has consistently worked toward complete modernization of its far flung facilities.

Since World War II it has more than trebled its number of telephones in service. In addition to the company's heavy volume of inter-island and local traffic, its operators last year handled more than 205,000 trans- Pacific calls.

Last year Hawaii Telephone Com-



District Service Supervisor AL BERG takes down one of the last magneto telephones operating in Hawaii in the home of ranch hand THEODORE BELL at Kamuela, Hawaii. Bell's son, Rodney, eyes the new instrument with interest. The Hawaiian Telephone Co. has completed conversion to dial operation.

OF THESE 3 TYPES OF
SUPERIOR
DIRECT BURIAL WIRE
...one will "do the trick" for you!

Buy SUPERIOR DIRECT BURIAL WIRE to match the requirements of your installation!

DB 217S

1 **Need wire having maximum resistance to damage from road or farm machinery and implements . . . or other similar sources?**

Order the SUPERIOR DB No. 217S with spiraled flat steel strip shield and green jacket.

DB 217B

2 **Need wire to resist damage from insects and rodents . . . or peculiar soil conditions which are conducive to increased lightning activity?**

Order SUPERIOR DB No. 217B with longitudinal bronze shield and yellow jacket.

DB 217

3 **Need wire for direct burial installations in areas where conditions are normal and no specific hazards are likely?**

Order SUPERIOR DB No. 217 non-armored type with red jacket.

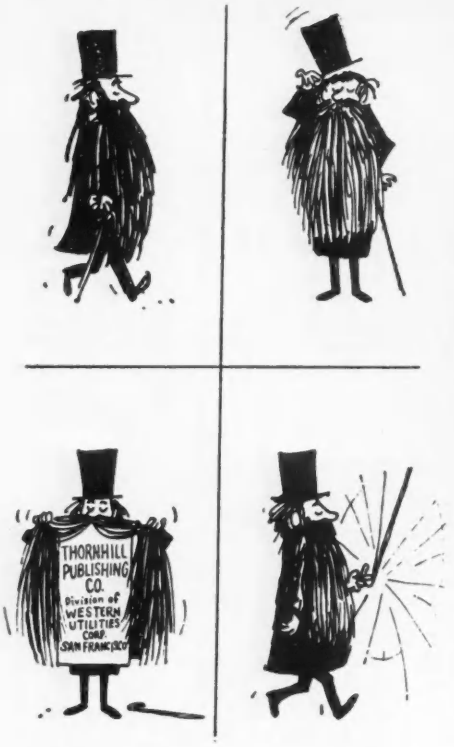
All three types provide excellent electrical and physical characteristics. High tensile strength 17 gauge copper conductors are insulated with polyethylene. Tracer ridge on the core runs the length of the wire. The high grade polyvinyl chloride jacket offers great resistance to water, oils, alkalis and earth acids. Also supplied in 16 gauge copper conductors on request.

INDEPENDENT

Order SUPERIOR Direct Burial Wire NOW or write for complete information to

SUPERIOR CABLE

SUPERIOR CABLE CORPORATION • Hickory, North Carolina



A complete telephone directory publishing service

300 MONTGOMERY ST., SAN FRANCISCO, CALIF.
OFFICES: KILGORE, TEXAS - EVERETT, WASHINGTON - BEAVERTON, OREGON

Statement of the Ownership, Management and Circulation Required by the Acts of Congress of August 24, 1912, as amended by the Acts of March 3, 1953, and July 2, 1946 (Title 39, United States Code, Section 233) Showing the Ownership, Management and Circulation of Telephone Engineer & Management, published monthly at Rochelle, Illinois, for October 1, 1957.

1. The names and addesses of the pubisher, editor, managing editor and business managers are:

Publisher—Telephone Engineer Publishing Corp., 7720 Sheridan Road, Chicago, Ill.

Editor—Ray W. Smith, 7720 Sheridan Road, Chicago, Ill.

Managing Editor—John G. Reynolds, 7720 Sheridan Road, Chicago, Ill.

Business Managers, Ray W. & Roy F. Smith, 7720 Sheridan Road, Chicago, Ill.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Telephone Engineer Publishing Corporation, 7720 Sheridan Road, Chicago 26, Ill.
Ray W. Smith, 7720 Sheridan Road, Chicago 26, Ill.
Roy W. Smith, 7720 Sheridan Road, Chicago, Ill.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: **(If there are none, so state.)**
Ray W. Smith, 7720 Sheridan Road, Chicago 26, Ill.
Roy F. Smith, 7720 Sheridan Road, Chicago 26, Ill.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

Ray W. Smith, Editor

Sworn to and subscribed before me this 10th day of September, 1957.

R. T. Hartigan, Notary Public
(My commission expires April 25, 1960)

Shown in shirt sleeves, left to right, are JOHN GEDDES and ROBERT STOCK, Sherron Metallic Corp. executives, supervising setting up of Sherron stainless steel telephone booths at USITA convention. Backdrop is photomural of Fifth Avenue and 42nd St., New York City, where groups of Sherron stainless steel telephone booths surround the world-renowned Public Library. At extreme right is shadow box cabinet in which full color transparencies of other Sherron stainless steel booth installations flash on and off.

pany spent $6,550,000 for new plant construction. The point of modernization attained by the company is pointed up by the fact that 63% of the value of its total plant in service is represented by dollars expended for construction in the past six years.

In 1956 the total value of Hawaiian Telephone's plant was estimated at nearly $60,000,000.

Ryman Appointed V.P. Porcelain Products

A. B. CHANCE CO. has announced the promotion of E. G. Ryman to vice president and general manager of the Carey, Ohio plant of Porcelain Products, Inc., a Chance Co. subsidiary. The appointment was announced by F. Gano Chance, president of the parent company in Centralia. Ryman has been A. B. Chance Company's regional sales manager for 11 Western states, Hawaii and Alaska for the past three years.

Ryman, who began his new duties about Nov. 1, will be responsible for management of all phases of the Carey plant's operations including manufacturing, sales, accounting, engineering, personnel and other departments.

The Carey, Ohio plant is referred to as the "low voltage" division of Porcelain Products, Inc., which Chance purchased two years ago and operates as a subsidiary. This plant, established in 1894, makes low voltage insulators and related items used by the electrical and telephone industries.

Ryman has been with the A. B. Chance Co. 23 years, starting work in the Centralia plant's production department in 1934. Two years later, he was transferred to the sales department. In the following decade he gained experience in all phases of the company's operations and is well known to many power and communication men across the country.

In 1947, shortly after the A. B. Chance Co. began its post-war expansion with the purchase of the Bowie Switch Co. of San Francisco, Ryman transferred to Portland, Ore., as district sales manager.

He was promoted to Western regional sales manager in 1954 and transferred to the company's West Coast headquarters in San Francisco.

Reine Elected V. P. Graybar Electric Co.

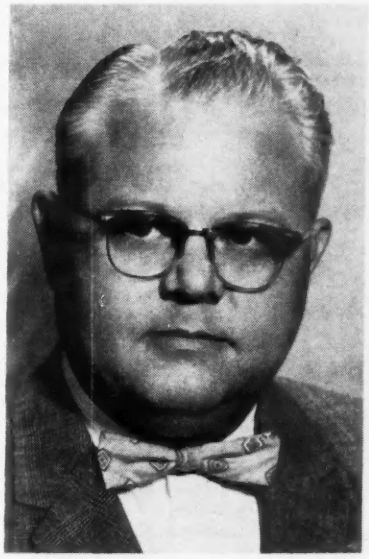
JOHN REINE, central district manager, was elected a vice president of the Graybar Electric Co., Inc. at the September meeting of the Board of Directors. He will join the headquarters staff at the New York office January 1, 1958.

Reine joined the company at Seattle in 1927 as a warehouseman. In 1929 he was appointed assistant power apparatus specialist. He transferred to Tacoma three years later as sales manager and in 1937 became manager of that branch. In 1949 he

moved to Portland as manager. He became district manager at Minneapolis in 1951 and transferred to Cincinnati in 1953 in the same capacity. In February 1955 he became assistant district manager at Chicago and was promoted to central district manager at the same location in 1956. In March of that year he was made a director of the company.

Kellogg Names Waggoner Production Control Manager

PHILLIP WAGGONER, formerly supervisor of material control and scheduling, Kellogg Switchboard & Supply Co., a Division of International Telephone & Telegraph Corp., Chicago, has been appointed production control manager, according to an announcement by William F. Boyd, vice president and director of manufacturing.



PHILLIP WAGGONER

Waggoner joined IT&T in 1950 as production control manager of the Capehart-Farnsworth Co., Flora, Ind., and subsequently held the positions of personnel manager and plant manager.

In July 1956 he transferred to the Kellogg division's Electronic Plant in Chicago as assistant to the manager of the electronic products division.

Prior to his association with IT&T, he was employed by the F. L. Jacobs Co. and the Bowes Sealfast Co., both of Indianapolis, Ind., his native town. During World War II, he served for 4½ years with the U. S. Army.

Bishop's Bi-Seal, a self-bonding (polyethylene based) electrical tape, possesses the unique characteristic peculiar to many plastic products . . . a retentive memory. When Bi-Seal is stretched during a normal splicing operation it "remembers" its original shape and fuses into a tight, homogeneous mass in an attempt to return to its normal form.

Within seconds a Bi-Seal splice has become a long-lasting, water tight seal, virtually non-absorbent and offering high dielectric strength and unusual resistance to moisture, corrosive atmospheres and chemicals.

Bi-Seal performs efficiently on any insulation and is unexcelled for cold weather applications, as low as —55°C. . . . never brittle, never shatters, conforms perfectly to the most complex shape or contour . . . lasts as long, or longer than the original insulation.

Highly recommended for communication and power distribution wire and cable splicing, moisture-proofing bi-metal connections, sealing corrosion-resistant conduit couplings, and insulating high frequency electronic circuits. Accepted by REA for insulating plastic telephone cable.

Write today for your free copy of Bishop's new tape catalog.

Bishop Bi-Seal is available from your distributor.

INDEPENDENT

ELECTRICAL INSULATING BI-SEAL SELF BONDING TAPE

BISHOP
MANUFACTURING CORPORATION
11 Canfield Rd., Cedar Grove, New Jersey

THE CLEARING HOUSE

Published in each issue of Telephone Engineer & Management. Advertising forms close on 1st & 15th of month. Rates 15 cents a word except for Situation Wanted ads, which are only 10 cents per word. In figuring cost of ads, count each word of address in number of words used. All ads payable in advance. Minimum charge—$2.00. Special rates for display ads on request. Send copy and box number replies to Telephone Engineer Publishing Corp., 7720 N. Sheridan Road, Chicago 26, Ill.

HELP WANTED

CABLE SPLICERS, Station Installers. Equipment Installers, Linemen. Experienced men needed. Steady work, good pay. Henkels & McCoy, 1211 Kenmore Avenue, Elkhart, Indiana, or 6100 N. 20th St., Philadelphia, Pa.

HELP WANTED: Journeyman equipment installer-repairman. Qualified in Strowger Step, North CX and all types of CXR equipment. Reply, Attention Equipment Supt., Inter County Tel. & Tel. Co., Box 390, Ft. Meyers, Fla.

WANTED — Experienced cable splicer for 16 exchanges in Southern Indiana. Write Box 9083, c/o Telephone Engineer Publishing Corp., 7720 North Sheridan Road, Chicago 26, Illinois.

PLANT ENGINEERS — For large Independent Telephone Company. Some experience necessary. In reply state age, educational and employment history. Address reply to Personnel Supervisor, Rochester Telephone Corporation, 10 Franklin Street, Rochester 4, New York.

ENGINEERS WANTED — Every category. Wish to relocate? Write in confidence. Not an employment agency. We locate men with know-how for industry. William J. McIlvane, 725 15th St., N.W., Washington 5, D. C.

SALESMAN WANTED — Engineering products selling to Utilities, Telephone Company's, Railroads — with minimum two years experience and now employed. Wish to relocate? Write in confidence. Not an employment agency. We locate men with know-how and know-who for industry. William J. McIlvane, 725 15th St., N.W., Washington 5, D. C.

COMMERCIAL ENGINEER for a West Coast Telephone Company. Prefer college background in Business Administration or journalism. Must have recent telephone commercial experience and be qualified to formulate and maintain commercial instructions, practices, work performance, correspondence and allied routines. Familiarity with telephone accounting essential as duties include monthly reconciliation of budget with actual and preparation of annual commercial budget. Send recent photograph, resume' and salary requirements to Box 9085, c/o Telephone Engineer Publishing Corp., 7720 North Sheridan Road, Chicago, Ill.

OPPORTUNITY for telephone accountant in Bellevue General Office. Young man under 30 years of age with accounting or bookkeeping training preferred. State training, experience, in letter application for interview to W. H. Todd, Secretary, Northern Ohio Telephone Company, Bellevue, Ohio.

DECALS

DECALS MADE for trucks, equipment. Small or large quantities. Catalog free. Mathews Co., 827 S. Harvey, Oak Park, Illinois.

FOR SALE

REAL BUY
247 Western Electric
And
40 Kellogg Dial Telephones
WRITE
G. T. Wright
512 North 3rd Street,
Woodburn, Oregon

CABLE-SPLICERS' WIPING CLOTHS

WIPING THE VERTICAL JOINT

Showing the up-right cloth in action.

Formed-flexible finishing cloths (Patented); Flat finishing cloths; Catch cloths; Crotch cloths and Up-right joint catch cloths. Made of world-prize HERRINGBONE TICKING or imported English MOLESKIN. If your jobber cannot supply you write us for literature and prices.

GEO. E. WILLIAMS CO.
3035 ALDRICH AVENUE, MINNEAPOLIS, MINN.

RECONDITIONED **NOW IN STOCK** **EXCELLENT**

QUANTITY	ITEM
500	W.E #BIAL Ringers (Straight Line)
100	W.E. #94-E, 94-F, 120-C Repeat Coils
100	W.E. #120-G Repeat Coils
500	W.E. #AB-1 and AB-2 Line & Cutoff Relays
200	W.E. #6017-E Key Boxes (3-Way)
75	W.E. #1268-A, 1269-A Protection
25	W.E. #22-C Combined Jacks and Signals on #89-B Mtg. (5 per)
10	W.E. #31-C Combined Jacks and Signals on #89-C Mtg. (5 per)
100	W.E. Rotary Stepping Switches #SS-5, SS-6, SS-7
5000	W.E. #E-R-U and B Type Relays

Whatever Your Needs . . . It Pays to Call BUTELCO

BUCKEYE TELEPHONE & SUPPLY CO.

P.O. Box 5707 **Columbus 21, Ohio**

Phone HUdson 8-0655

FOR SALE

POLES, Southern Yellow Pine — Kennedy Saw Mills, Box 54, Shreveport, Louisiana.

1 — Kellogg Relaymatic Automatic Dial Switchboard of 100 line capacity equipped for 80 lines with 8 conversational links. Phones and lines not included. Used 1 year — A-1 Condition.
P. H. Glatfelter Co.
Spring Grove,
Pennsylvania

SPECIFY
TELERING
for

Dependable and Economical Telephone Ringing Power Equipment.
Engineered for complete satisfaction.

Manufactured by
TELKOR, INC. **Elyria, Ohio**

USE TELEPHONE ENGINEER

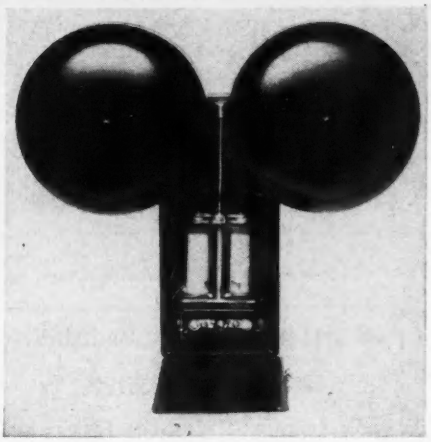
AND MANAGEMENT'S

CLEARING HOUSE

To locate workers—jobs—

merchandise.

A small ad covers the field.



No. 198—6" Loud Ringing Extension Bell

THE INSIDE QUALITY STORY ON Suttle 6" Loud Ringers IN

Harmonic • Decimonic
Synchromonic
and Straight Line Frequencies
TO INCREASE YOUR REVENUE

The gongs are *real* bell metal—rugged, heavy construction (wt. 13 lbs.)—highest quality coils and reeds—weatherproof gasketed—built to last for years. Made to operate on *your* ringing machine —*your* wire—*your* phones.

Synchromonic: 16, 30 cycles (2,500 ohms); 42, 54, 66 cycles (1,000 ohms)
Harmonic: 16-2/3, 25 cycles (2,500 ohms); 33-1/3, 50, 66-2/3 cycles (1,000 ohms)
Decimonic: 20, 30 cycles (2,500 ohms); 40, 50, 60 cycles (1,000 ohms)

PRICE ONLY $24.80 ea.

High impedance (4,000 ohms) in any frequency with condenser, $4.00 extra.
No. 199: Straight Line, 1,000 or 1,600 ohms—Price only $15.85 ea.

SUTTLE EQUIPMENT COMPANY

Lawrenceville 782-3 **135 S. La Salle St., Chicago 3, Ill.** **DEarborn 2-3108-9**
Distributed by: Stromberg-Carlson Co., Leich Sales Corp., and Graybar Electric Co.

BETTER TRANSMISSION VF OR CARRIER

Extra D B Gain

COPPERWELD LINE WIRE

Save 20% & up

#12 AWG (.080) 40% conductivity—high strength
Unused—Original factory coils (average 100 lbs.)
export wrapped—bright (100% perfect) . . 37c lb.
unwrapped — some tarnish — good . . . 32c lb.
— guaranteed all usable — shipped on approval —
freight allowed on carloads

Telectric Co.

1218 VENICE BOULEVARD **Richmond 8-2249**

Los Angeles 6, Calif.

Professional Services

Save Money and Time!
TELEPHONE PRINTING SPECIALISTS FOR 49 YEARS
TOLL TICKETS 1-LOUT on Bond Paper ONLY 40¢ THOUSAND (MIN. 20,000)
TELEPHONE 42-3341
CULLOM & GHERTNER CO.
PRINTERS • LITHOGRAPHERS
600 21ST AVE., N. • NASHVILLE, TENN.

Construction Crews Station Installers
Central Office Installations
Cable Splicers Complete Engineering
HENKELS & McCOY
6100 North 20th Street Philadelphia, Pa.
Now Operating in 30 States
OFFICES LOCATED AT
Elkhart, Ind. - Tel. 2-5650
Norwalk, Ohio - Tel. 3-0231
St. Johns, Mich. - Tel. 966
Pekin, Il. - Tel. 6-6336
Erie, Pa. - Tel. 2-4300
Sumter, S. C.
PERFORMANCE Has Built Our Business

What You Want
When You Want It
Immediate Shipment from
Nearest Warehouse Points
TELEPHONE & POWER SUPPLY, INC.
TOPEKA, KANSAS PHONE 4-8788

CARL C. CRANE, INC.
Consulting Engineers
2702 Monroe Street, Madison 5, Wis.
Telephone CEDAR 3-4210

TUDOR AND YAGER INC.
TELEPHONE CONSTRUCTION
TIPTON, INDIANA
Phone OSborne 5-2267

SLOAN, COOK & LOWE
CONSULTING ENGINEERS
SUITE 1344 120 South La Salle Street
CHICAGO
Appraisals—Original Cost Studies
Investigations
Depreciation, Financial, and Other

INSPECTION SERVICE
"AT TIMBER TREATING PLANTS."
Of poles, crossarms, and preservative treatments. Analysis of wood preservatives. Consulting and specifications writing.
A. W. WILLIAMS INSPECTION CO., INC.
MOBILE, ALABAMA
Inspectors stationed throughout the U.S.A.

Davis Construction Co.
UTILITY PLANT CONSTRUCTION
45 North Clark Street • Sullivan, Missouri

EDWIN T. MAHOOD
Consulting Telephone Engineer
Kansas City 13, Missouri
627 West 67th Street — Jackson 3-4452

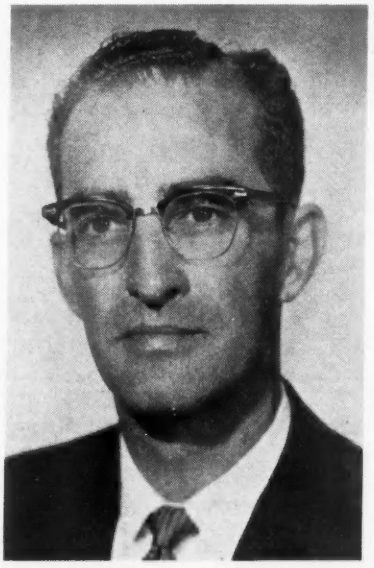
McGRATH ENGINEERING, INC.
Consulting Engineers
209 West 6th Street
TOPEKA, KANSAS
Telephone CEntral 2-2358

JAY G. MITCHELL
CONSULTING ENGINEER
APPRAISALS—COSTS—PLANT
7720 SHERIDAN ROAD CHICAGO
FOR MAIL BOX 523 EVANSTON, ILLINOIS

TELEPHONE PRINTING
By People Who Know the Telephone Business.
See the Suttle Catalog.
SUTTLE EQUIPMENT CO.
LAWRENCEVILLE ILLINOIS

George S. Kertson Joins Stromberg-Carlson

GEORGE S. KERTSON, of Everett, Wash., has been appointed a sales representative with the Telecommunication Division of Stromberg-Carlson, a division of General Dynamics Corp.,



GEORGE S. KERTSON

according to an announcement by T. C. Thompson, general sales manager of the Telecommunication Division.

Kertson replaces Charles E. Fogg, of the company's San Francisco office, which is under the direction of J. P. Galligan, branch manager. Kertson will serve Independent telephone companies in the State of Washington and the Territory of Alaska. Fogg has returned to Rochester and is now with the national telecommunication sales engineering staff.

Kertson comes to Stromberg-Carlson from the West Coast Telephone Co., in Everett, Wash., where he had been in charge of all equipment installation work since 1952. Under his direction this grew into a three-state operation, including construction, installation, maintenance and storage of central office equipment.

Previously Kertson was with the equipment engineering department of the West Coast Telephone Co. He began his career in telephony in 1940 as an installer with the Western Electric Co. His career was interrupted by military service in 1944, but was continued upon his return to the company in 1946, and he became equipment supervisor.

STROMBERG-CARLSON

Transmitter

A DIVISION OF GENERAL DYNAMICS CORPORATION

News and views of Independent telephone people. VOLUME 6, NO. 8 • NOVEMBER, 1957

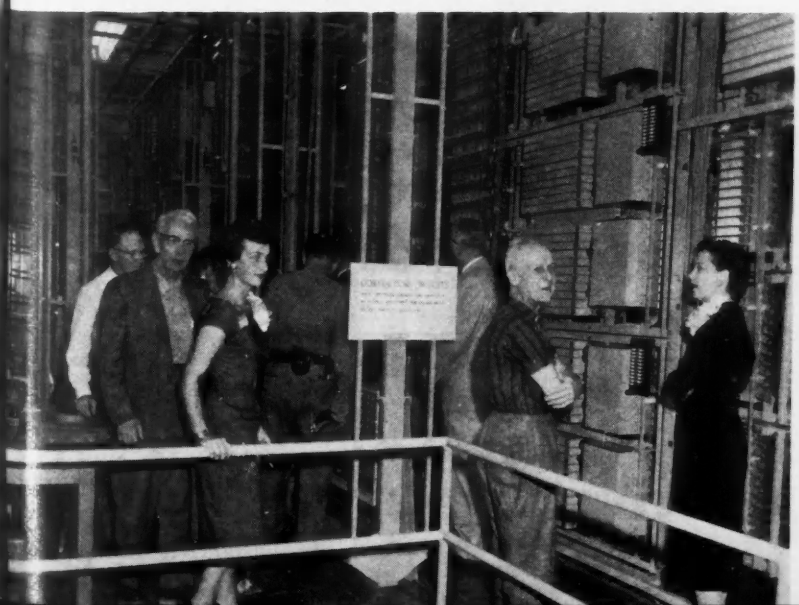
Open House at Warsaw marks Telephone Week

"Directories are even more important now." Mr. Ralph Lucier, president of the United Telephone Company of Indiana, Inc. shows Mr. L. M. Berry, president of L. M. Berry Directory Company, the XY Toll Ticketing equipment affording customer direct dialing to and from Warsaw, Atwood, Burket, Etna Green, Leesburg, Mentone, Milford, Millwood and Tippecanoe, averaging more than 400 calls per day.

It was fitting that the United Telephone Company of Indiana should plan the Open House at their Warsaw office for National Telephone Week. For several weeks the XY-Dial equipment and customer Direct Distance Dialing had been in service. But it took a little time to clear out the old manual switchboard, rearrange the offices and redecorate — and this company believes in doing things the right way. By pointing toward this date, it gave real meaning to the observance of Telephone Week in Warsaw.

Score a double bull's-eye for this leader among operating companies.

Warsaw employees explain operation of the 5300 terminal XY-Dial and Toll Ticketing equipment to many subscribers who had never known anything but operator service. Visitors were impressed with the "know-how" of United personnel in charge of operations.



Touring groups, as usual, crowded the toll room. Warsaw is "Information" and places L. D. calls for its own nearby exchanges and some belonging to the General Telephone Company in contiguous areas.

U.S.I.T.A. CONVENTION PHOTOS ON INSIDE PAGES

Stromberg-Carlson takes you to the

The 60-year history of the U.S.I.T.A. was appropriately recognized at the recent National Convention in Chicago. These have been wonderful years, as anyone whose memory spans a considerable portion of them can testify.

But the dominant theme of the Convention, both at the general sessions and in the exhibit rooms, was geared to the future — not the past. If you were there, you know this.

Because many people who are closely identified with this future progress of Independent Telephony could *not* attend the Chicago sessions, Stromberg-Carlson invites you, through these pages, to come along to the Conrad Hilton Hotel.

Everyone agrees that this was the "biggest and best Convention yet." One lady conventioneer said it simply for all . . . "What will they think of next!" She had just left the principal Stromberg-Carlson exhibit room where she saw the embodiment of the company's 1957 theme: "Entrust your tomorrow to today's leader."

Visitors saw telecommunication equipment by Stromberg-Carlson which is in widespread use across the country, in 46 states, and learned how this equipment has been designed to keep pace with the onrushing electronics era.

As a matter of fact, a rather modest display of printed circuitry associated with electronic switching drew at least as much attention as the larger Stromberg-Carlson exhibits.

The large central display, featuring a full-color 6-foot mural of an XY exchange, struck visitors' eyes with a dramatic impact as they came down the corridor to the main room of the Stromberg-Carlson suite. Equally impressive were the huge color transparencies of the Telecommunication Plant and Electronics Center, stationed back-to-back with the XY display. Exhibits of the five other General Dynamics divisions also captured interest.

This dramatic XY display was the first object to greet visitors to the exhibit. The picture is a 6-foot color transparency — so real that, as one visitor said, "I feel I can reach in and pull out a circuit plate."

Overheard

One of our observers on the scene made a point of listening to comments made by visitors. Remarks like the ones on the opposite page were typical.

Ed Sears, Manager of Industrial Sales, tells Pagemaster story to some interested ladies.

A gentleman from Chicago, Jim Pfaender of Stromberg-Carlson, (right), welcomes two gentlemen from New Ulm, Minnesota: John Holland (left) and Arthur Walser.

T. C. "Tommy" Thompson, Telecommunication Sales Manager, lends an attentive ear. His guest is Mrs. Licklider of Elkton, Oregon.

the 0th National Convention

Serious answers to visitors' serious questions about carrier and multiplex are supplied by Murt Shea (second from left) and George Masak (second from right) of Stromberg-Carlson's Chicago and Atlanta offices, respectively.

Telecommunication Vice-President John H. Voss (left), shows the sights to U.S.I.T.A. Director Herman Hageman, President of the Lorain, Ohio Telephone Company.

Telecommunication Advertising Manager Frederic W. Haupt plays host to Mrs. Elmer Danner, of San Angelo, Texas, and Mrs. Walter G. Wright, of New York.

in the corridors

On the XY mural: "It looks so real — I feel that I can reach right in and pull out a circuit plate."

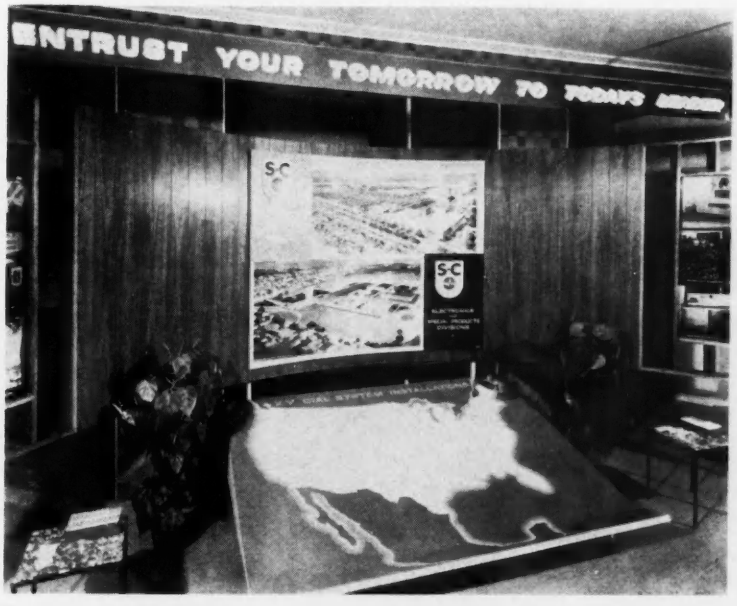
On Pagemaster®: "Best code system there ever was."

On the F-40 attendant's cabinet: "Really decorative, isn't it?"

On the sleek new wall telephone (ladies speaking): "Just what I want for my kitchen!" Typical masculine reaction: "Functional — would fit nicely in my den."

Perhaps the best summing-up was a comment heard in the corridor: "Let's see the Stromberg display. They've always got something outstanding in their rooms."

The theme of the Stromberg-Carlson exhibit is expressed in this presentation of the company's vast facilities. Winking lights on the map indicates XY-Dial installations in 46 states.



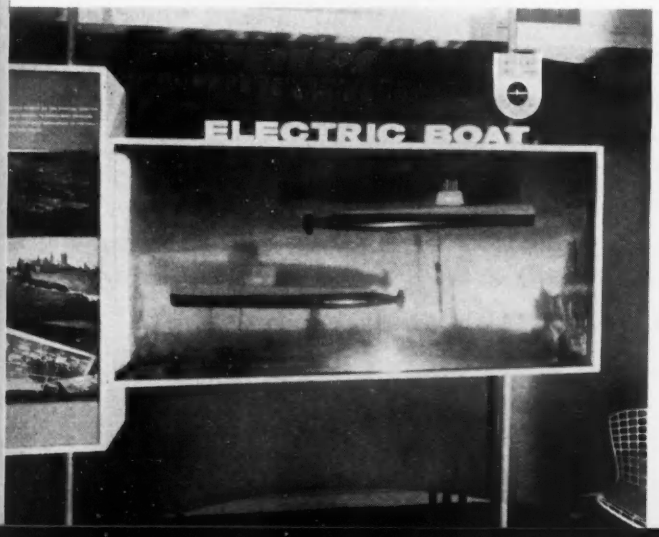
Meet the family of GD GENERAL DYNAMICS

It's no news to you that Stromberg-Carlson is a member of the General Dynamics family. Now we'd like you to see (as did convention visitors) what our "siblings" look like. The displays pictured here were designed and built by Stromberg-Carlson to show the work of the other Divisions: Electric Boat, Convair, Electro Dynamic, General Atomic and Canadair, Ltd.

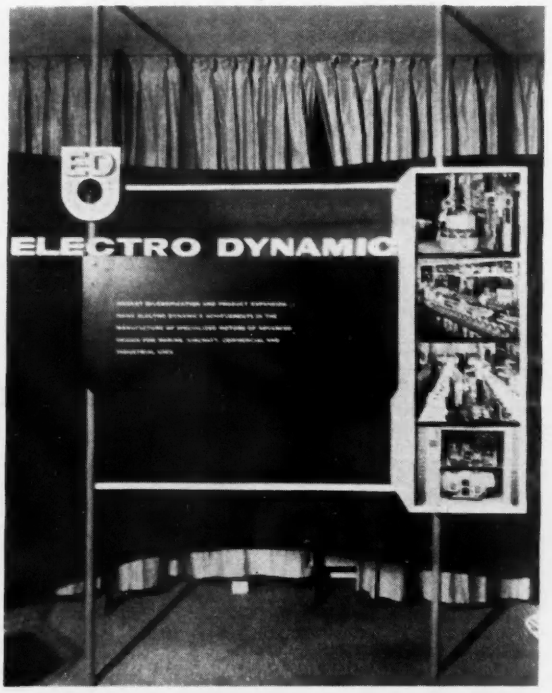
The Convair display affords a fascinating glimpse of the shape of the future in commercial and military aircraft and supersonic guided missiles.

Production of commercial aircraft and military jets are combined with nuclear energy and missile development at Canadair, Ltd.

Convention visitors of all ages were entranced by these models of Electric Boat's famed atomic submarines *Nautilus* and *Seawolf*. Here, indeed, is the shape of the future in hydrodynamics.



General Atomic's John Jay Hopkins Laboratory combines pure research in nuclear energy with the resources and methods of industrial organization.



Advanced design AC and DC motors for a wide variety of specialized military and industrial uses are the province of Electro Dynamic.

Stromberg-Carlson's Wesley M. Angle (second from right) plays host to a South Carolina family, Mr. and Mrs. Frank S. Barnes and Mrs. Edwin Barnes. Mr. Barnes is President of the Rock Hill Telephone Company and a U.S.I.T.A. director. W. L. "Moon" Mollands, Stromberg-Carlson Atlanta Branch Manager, and John Voss, Vice President, in a quiet corner with Mr. and Mrs. Dave Odle of Parsons, Tennessee.

Verne Robinson (left) and Francis Simpson (right), both of Winchester, Indiana, look as if they're waiting to be convinced.

The ultimate in systems for small offices is represented in these two fingertip PBX systems, the popular 6K-1 (right) and the new two-line, 10-station model.

The executives were everywhere

It is characteristic of U.S.I.T.A. Conventions that they attract a keen, inquisitive audience primed with pointed questions. Those who man the displays have to be on their toes every minute.

The Stromberg-Carlson exhibit was manned by some of our top executives as well as by engineers and sales representatives from home base in Rochester and from the various branch offices.

Doing yeoman work as guides, explainers and answer men were Gordon G. Hoit, Executive Vice President, John H. Voss, Vice President in charge of Telecommunications, Sales Manager T. C. "Tommy" Thompson, who is not unknown to you, and Frederic W. Haupt, Advertising Manager.

With the constant heavy traffic streaming through the Stromberg-Carlson suite, the services of these and other company officials were welcome indeed.

Chet Reynolds, Stromberg-Carlson National Supply Manager (second from right), is telling a story — evidently a good one — to fellow Chicagoans Ralph Pouk (center), Jack Schleh (second from left) and two visitors.

As you might expect, the ladies were fascinated by the handsome display of full-color telephone instruments.

Telecommunication's tomorrow is symbolized in this highly significant display of ticketing and electronic switching.

Telephone office in Girard, Kansas, is headquarters for a system covering 13 towns.

George Forbes

The Postman's Holiday: No. 3

The early bird must hu

"Coffee?"

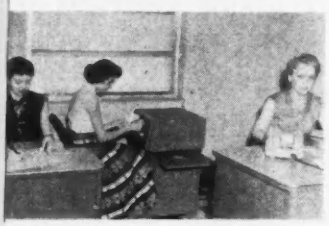
Our husky query fell on calloused ears, but there did seem to be some slight activity behind the counter of the 24-hour truckers cafe. Yesterday, in the comfortable resort in Noel, after being ushered to a table shining with fresh linen, coffee appeared before thought was articulate. And today — the day after the Fourth of July — it would happen again there (about two hours from now) as the first vacationing guests came down to breakfast.

We were making an early start to call on John Frerichs and his Craw-Kan Telephone Cooperative Association in *Girard, Kansas*. Crossing the state line just west of Joplin, you leave rolling green woodlands for sun-baked prairies, almost as if a giant mattock had grubbed the land clean to the border. Strip mines, considerably past their prime, and boarded-up windows on cafes and general stores, spoke silently of better days. Fortunately Kansas roads are laid out by flying crows, and it doesn't take long to put miles behind you.

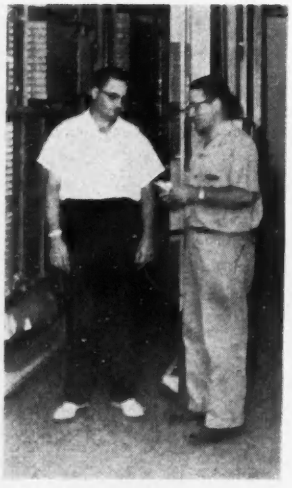
Girard is a lovely city, the county seat set down among its fertile acres of wheat, corn and diversified crops. Crawford County used to be fourth in population, and still shows consistent growth even though others with manufacturing interests have forged ahead. The telephone cooperative was formed in 1952 from 12 struggling independents and two mutuals. Eight of the exchanges are now XY-Dial and the other six will soon convert from magneto to dial.

John Frerichs had been managing the R.E.A. electric co-op for some ten years when he was asked to take over the telephone properties. He runs the business end, leaves actual operation to Joe Gannon, wire chief, and Everett Gilmore, plant superintendent.

At present the system serves 3700 subscribers and is engineered for substantial growth. Many who had never had a phone come in one at a time to order one. The good service is particularly appreciated by outlying farmers who had to drive in to town to use the coin booths.



Pleasant business office and up-to-date billing procedures provide a good public relations for Craw-Kan Cooperative subscribers. Patricia Hackworth is company accountant.

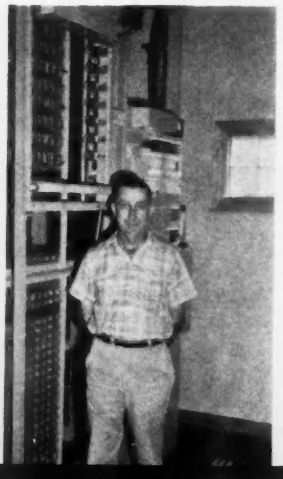


John Frerichs (left), general manager of the Craw-Kan Telephone Cooperative, with Joe Gannon, wire chief.

Murle Tutty, manager at Chouteau, Oklahoma, found that the telephone business hasn't heard of the 40-hour week. But he's "over the hump" now.

"If you can't stay for supper, at least have afternoon coffee with us." Mary Mullen, daughter of the manager at Inola, Oklahoma, passes refreshments, as Mrs. Mullen catches up on a little bookkeeping.

The Micka Family of Tulsa — obviously taken on a week-end. It sure was nice to relax a bit with Stromberg-Carlson "family." L-R: Pam, Dottie, Garry, Frank.



O. H. Mullen of Inola will soon have a new and much larger XY-Dial office.

breakfast!

The Will Rogers Turnpike cuts straight to Tulsa. We left it at Vinita, skirted the edge of the Grand River recreation area to *Chouteau, Oklahoma*, where Murle Tutty gave us a towering welcome. This comparative newcomer to the telephone business really "took it on the chin" for awhile, but his modernization program now is paying for itself, with further improvements planned.

It all started with a simple question: "Why do I have to wait so long for telephone service?" Mr. Tutty, at this time operating a real estate business from Tulsa, had purchased a farm just beyond the last service pole. The first question led to several more — suddenly Mr. and Mrs. Tutty found that they *owned* the telephone company, and what was more, their new business had become "their boss." Looking back over the difficult years, they are entirely satisfied with their decision — and so are their 500 subscribers!

Inola, Oklahoma, is closer to Tulsa, and already has been absorbed into the commuting orbit, although still primarily an agricultural community. Mr. O. H. Mullen, who was an oil-field driller until he "married into the telephone business" knows where every pole and subscriber drop is located, for he put them there. It's taken a little longer, and there still are held orders, but good telephone service is catching — the original "B System" will soon be replaced with a larger XY-Dial T.P.S. unit in a new building across the street, giving Mrs. Mullen much-needed office space in the present building.

Tulsa that evening, and a most cordial welcome from Frank Micka and his family. On Saturday Dottie Micka offered her Bendix to my lady; the young lad explored the Oil Capitol of the World with Frank; your reporter swung south for a very pleasant call at *Beggs, Oklahoma*.

Cotton, pecans, cattle fattening, and *oil* from wells which make their quota in the first three days of the week. Forrest Hand runs the telephone company here — it's been in good "Hands" since 1928, when his father exchanged property in Comanche for the Beggs plant. Mr. and Mrs. Beggs Sr. came to Oklahoma when it was still Indian Territory — filed an Indian lease and later obtained a deed signed by Woodrow Wilson for a farm in western Oklahoma.

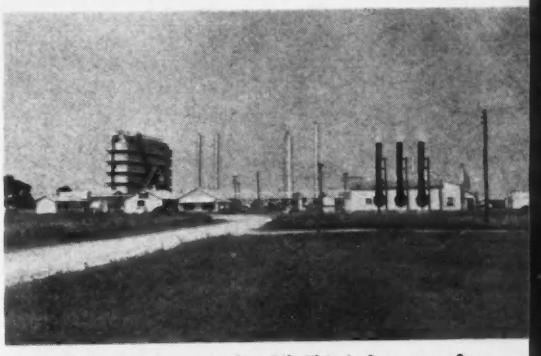
No one expects Beggs to suddenly become a metropolis. Forrest has a fine, trouble-free XY-Dial office of the size he can manage. And it's nice to come home at noon to a delicious meal such as the one served us so graciously by his wife Allowe.

Sundays are for travel — in large gulps. Down the valley of the Arkansas River, where a parching thirst for rain over the years had this Spring been gorged to gluttony. Only one bridge was still out, but evidences of flooding were everywhere . . . . that is, until we again crossed a state line and suddenly found ourselves in the arrestingly beautiful Ozark Mountains of western Arkansas.

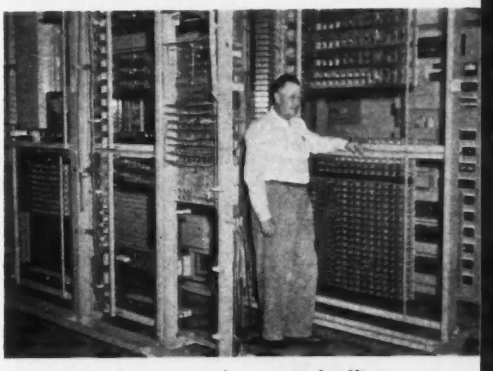
Mr. and Mrs. L. L. Thornton manage the Interstate Telephone Company in *Waldron, Arkansas*. Located south of Ft. Smith, Waldron is the only town in its county — the other 80% is National Forest, yielding bumper "crops" of lumber, pulp and poles and furnishing raw material for such industries as the lumber mill and furniture factory in Waldron.

In partnership with Mr. and Mrs. James Thompson of Ft. Smith, the Thorntons have greatly improved the property, converting a 750-station XY-Dial office in 1955. Mr. Thornton spent 15 years with the Bell System in Texas, was layed off during the depression, and shot trouble "by the hour" so as not to have to cash in his A.T.&T. stock — later to become his down payment for three exchanges in Arkansas.

The setting sun silhouetted the slumbering mountains as we bade the Thorntons good-bye and headed through the forest toward our Monday morning rendezvous, where we'll pick up the story next month.



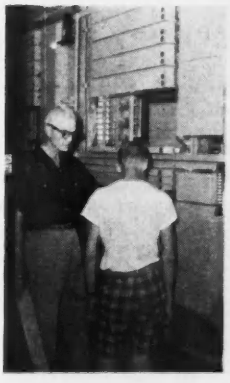
The "O" in Oklahoma is for Oil. This is but one of several large cracking plants between Tulsa and Beggs.



Forrest Hand manages his XY-Dial office in Beggs, Okla., pretty much by himself.

Mrs. Allowe Hand, secretary of the telephone company, teacher, and charming hostess.

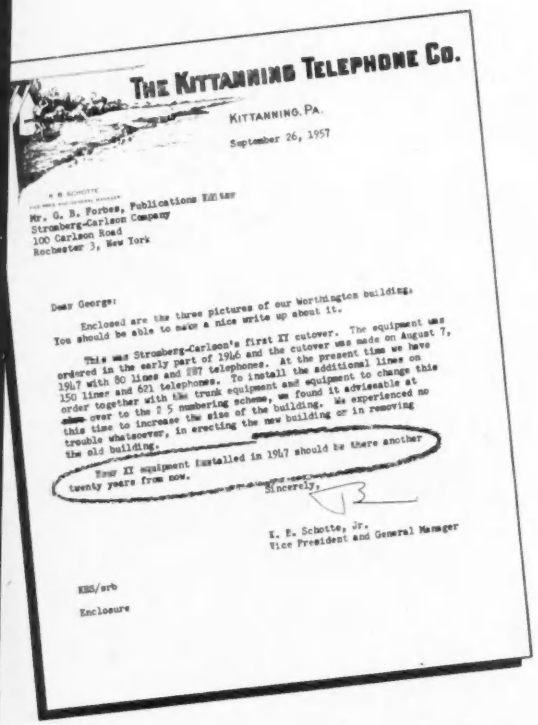
Forrest Hand's mother, still active in telephone business, came to Oklahoma when it was Indian territory.



Mr. L. L. Thornton of Waldron, Arkansas, saved pennies when they were hard to come by — now has fine office to show for it.

"Anyone want to buy a dozen parakeets?" The Thorntons of Waldron make this a profitable hobby.

"Your XY equipment installed in 1947 should be there another twenty years from now"



THE KITTANNING TELEPHONE CO.
KITTANNING, PA.

September 26, 1957

K. B. SCHOTTE
VICE PRES. AND GENERAL MANAGER

Mr. G. B. Forbes, Publications Editor
Stromberg-Carlson Company
100 Carlson Road
Rochester 3, New York

Dear George:

Enclosed are the three pictures of our Worthington building. You should be able to make a nice write up about it.

This was Stromberg-Carlson's first XY cutover. The equipment was ordered in the early part of 1946 and the cutover was made on August 7, 1947 with 80 lines and 187 telephones. At the present time we have 150 lines and 401 telephones. To install the additional lines on order together with the trunk equipment and equipment to change this cable over to the 2 5 numbering scheme, we found it advisable at this time to increase the size of the building. We experienced no trouble whatsoever, in erecting the new building or in removing the old building.

Your XY equipment installed in 1947 should be there another twenty years from now.

Sincerely,

K. B. Schotte, Jr.
Vice President and General Manager

KBS/srb

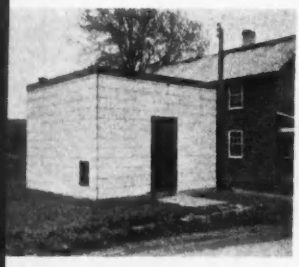
Enclosure

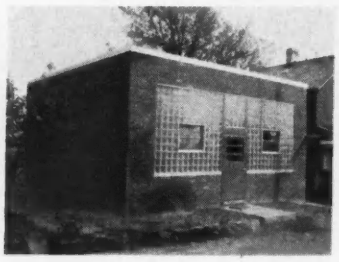
Ten years ago Mr. K. B. Schotte, Jr. "dared to be first." The photos below show what's now happening to the Worthington exchange of the Kittanning (Pa.) Telephone Company, where the first XY-Dial office was installed in 1947.

A lot of water has flowed down the Allegheny River since then. Ben Schotte has blanketed the region north of Pittsburgh with XY-Dial equipment. And in this relatively short period of time, this make of dial equipment stands in first place in number of installations throughout the country.

But what of Worthington? The town has grown so that the exchange was literally "bursting its shingles." Knowing how easy it is to add to the equipment, Ben Schotte decided only to give it room to grow. Specializing in doing what might seem impossible (he once before had jacked up a fully-operating manual switchboard as the dial office was being built below it), he wrapped a modern new structure around the existing building, then took the old building, piecemeal, out the door.

Progressive shots of original building housing first XY-Dial exchange at Worthington, Pa. New building was built around existing structure which was later dismantled.





K. B. Schotte, Jr., vice-president and general manager of the Kittanning (Pa.) Telephone Company. Ben never has "problems"; he and his men specialize in finding the solution for a situation before it becomes one.

15 Years for two at Kansas City

Mutual congratulations are in order as R. Fred Fairly, manager, and Myles L. Woolley, sales engineer, of the Stromberg-Carlson Kansas City Branch receive their 15-year service pins. Shown left to right are Joe Mullin, Kent Cunningham, Al Gear, Mr. Fairly and Mr. Woolley shaking hands, Walt Baum, Art Preble. Bill Riley, also a sales engineer in this office, is not in the group as he was the photographer.

Stromberg-Carlson
Transmitter
Published by THE TELECOMMUNICATION DIVISION
STROMBERG-CARLSON
A DIVISION OF GENERAL DYNAMICS CORPORATION
Rochester 3, New York
GEORGE B. FORBES, Editor

XY is a registered trademark of Stromberg-Carlson

Advertisers & their Agencies

TELEPHONE ENGINEER & MANAGEMENT, November 15, 1957

Use this index for the latest information on where to obtain guaranteed telephone supplies and equipment. If you do not find what you want, write TE&M's Readers' Service Department,

Acme Visible Records, Inc. 15
E. H. Brown Adv. Agency
Acorn Insulated Wire Co., Inc. 91
Alphaduct Wire & Cable Co. 91
Hicks & Greist, Inc.
American Chain & Cable Co., Wright Hoist Div. 63
Reincke, Meyer & Finn, Inc.
Ansonia Wire & Cable Co. 65
George T. Metcalf Co.
Armstrong Cork Co. 6
Batten, Barton, Durstine & Osborne, Inc.
Automatic Electric Sales Corp. 23-25
Proebsting-Taylor, Inc.
Automatic Electric Sales Corp. 56-57, 69

Bakelite Co., A Division of Union Carbide Corp. 2-3
J. M. Mathes, Inc.
Barber-Greene Co. 37
The Buchen Co.
Bashlin Co., W. M. 91
Davies & McKinney, Advertising
Benner-Nawman, Inc. 9
Schenkofsky Adv.
Berry & Co., L. M. ..... Inside Front Cover
Kircher, Helton & Collett, Inc.
Bishop Mfg. Co. 99
Keyes Martin & Co.
Buckeye Telephone & Supply Co. 63, 100

C & D Batteries, Inc. 95
John T. Hall & Co.
Chance Co., A. B. 47
Arthur R. Mogge, Inc.
Chase Brass & Copper Co., Inc. 17
Cunningham & Walsh, Inc.
Commercial Cord & Supply Co., Inc. 30, 91
Scriveener & Rice, Inc.
Communication Equip. & Engrg. Co. 83
Cook Electric Co. 7
Sorensen & Co.
Copperweld Steel Co. 81
Vic Maitland & Associates, Inc.
Crane Inc., Carl C. 102
Cullom & Ghertner Co. 102

Davis Construction Co. 102
Donnelley & Sons Co., R. R. 63

Exide Industrial Division The Electric Storage Battery Co. 49
Gray & Rogers, Inc.

General Cable Corp. 1
Hicks & Greist, Inc.
General Tel. Directory Co. ..... 91 and Back Cover
H. B. Humphrey, Alley & Richards, Inc.
Giant Mfg. Co. 91
Graybar Electric Co., Inc. 79
G. M. Basford Co.
Greenlee Tool Co. 73
Howard H. Monk & Associates, Inc.

Henkels & McCoy 100, 102
William Jenkins Advertising, Inc.
Highway Trailer Co. 91
Arthur Towell, Inc.
Holan Corp., J. H. 96
Bayless-Kerr Co.

Indiana Steel & Wire Co., Inc. 77
Bob Robinson, Inc.
Instrument Laboratories 86
Clayton W. Munger

Katolight Corp. 86
Frizzell Adv. Agency, Inc.
Kearney Corp., James R. 59
French & Shields, Inc.
Kellogg Switchboard & Supply Co. 12-13, 26-27, 60-61, 90
The Fensholt Advertising Agency
Kennecott Wire & Cable Co. 17
Cunningham & Walsh, Inc.
Kimble Glass Co. (Owens-Illinois) 36
J. Walter Thompson Co.
Klein & Sons, Mathias 58
The Buchen Co.
Koiled Kords, Inc. 4
J. Roy McLennan Advertising

Leich Sales Corp. 52-53
Armstrong Advertising Agency
Lorain Products Corp. 94
Gates Bourgeois Advertising Agency

Mahood, Edwin T. 102
Mathews Co. 100
McGrath Engineering, Inc. 102
Minnesota Mining & Mfg. Co. 31
Batten, Barton, Durstine & Osborne, Inc.
Mitchell, Jay G. 102
Monsanto Chemical Co. 31
Needham, Louis & Brorby, Inc.
Morrison-Pelsue Co. 50
Boccard, Dunshee & Jacobsen, Inc.
Murphy Engineering Laboratories, Inc. 67
Aylin Advertising Agency

North Electric Co. 10-11
Coleman Todd & Associates

Owens-Illinois (Kimble Glass Co.) 36
J. Walter Thompson Co.

Page & Hill, Inc. 8
Wm. L. Baxter Advertising
Phelps-Dodge Copper Products Co. 20-21
Compton Advertising, Inc.
Porcelain Products, Inc. 94
Beeson-Reichert, Inc.
Preformed Line Products Co. ..... Inside Back Cover
Bayless-Kerr Co.
Reliable Electric Co. 91
Merchandising Advertisers
Remington Rand, Inc. 87
Paris & Peart, Inc.
Runzel Cord & Wire Co. 55, 91
Henke & Associates

Seymour Smith & Son Co., Inc. 72
Wilson, Haight, Welch & Grover, Inc.
Sherron Metallic Corp. 91
Jos. P. Schneider, Inc.
Sloan, Cook & Lowe 102
Stewart Bros. 86
Clayton W. Munger
Stromberg-Carlson Co. 19, 34-35, 74-76, 101, 103-110
The Rumrill Co., Inc.
Sturgis Posture Chair Co. 94
Blaco Adevertising
Superior Cable Corp. 97
Bennett Advertising
Suttle Equipment Co. 101, 102
Proebsting-Taylor, Inc.

Tapecoat Co. 51
Fred H. Ebersold, Inc.
Taylor-Colquitt Co. 67, 91
Lowe & Hall Advertising
Telectric Co. 101
Telephone & Power Supply Co. 102
Telephone Repair & Supply Co. 91
Teletype Corp. 16
Cunningham & Walsh, Inc.
Texas Creosoting Co. 91
Thornhill Publishing Co. 98
Transandean Associates, Inc. 85
Keyes, Martin & Co.
Truck Equipment Co. 70
Tool & Armstrong Adv.
Tudor & Yager 102

Union Carbide Corp., Bakelite Co. 2-3
J. M. Mathes, Inc.
Universal Controls, Inc. 60-61
Clarke, Dunagan & Huffhines, Inc.
U. S. Steel Co. (American Steel & Wire Division) 89
Batten, Barton, Durstine & Osborne, Inc.

Whitney-Blake Co. 28-29
J. Roy McLennan Advertising
Williams Co., George E. 100
Williams Inspection Co., A. W. 102
Wright Hoist Division (American Chain & Cable Co.) 63
Reincke, Meyer & Finn, Inc.

Subscribe Now

If you are not a regular reader of TELEPHONE ENGINEER AND MANAGEMENT you will probably wish to place yourself in position to receive your own personal copy of each issue . . . 24 big issues that will be of help to you every day throughout the year.

1 Year-24 Big Issues-$4.00

TELEPHONE ENGINEER & MANAGEMENT
7720 Sheridan Road
Chicago 25, Illinois

Please send TELEPHONE ENGINEER & MANAGEMENT to me for 1 year.

Name (Please Print) .....

Company .....

Street Address or Box Number .....

City Zone State .....

THE BACK OF THE BOOK

By JOHN G. REYNOLDS

"Overcautions"

OVERCAUTION doesn't always pay, as one TV telephone quiz show contestant will tell you. As we get it, this particular contestant was telephoned beforehand to make sure that she would be home at the time of the telecast. As the show went on, repeated attempts were made to reach her number, but the only reply was a busy signal.

After the show, the irate contestant called the TV station to complain that she had waited the full program time and was never called. *"I even took my receiver off the hook to be sure my line wasn't tied up!", she exclaimed.*

Neat System

IN A nearby university where the males far outnumber the coeds, we hear by way of our grapevine that one student recently made sure that he had no dating problems. He did it by placing this ad in the campus newspaper: *"Any good-looking female wishing a date, call* 92-3177."

The results prove again the vital role of the telephone in education. He netted 10 telephone calls in answer to his ad. At the end of term, he walked away with a degree, and a very pretty coed.

Fines For 'Phone' Fishing

TELEPHONING fish is getting expensive down Dixie way. According to the *Chicago Daily News* six anglers paid over $2,600 in fines for contacting the fish with electrical wires.

Fishing by "telephone" is done by running an electrical current into the water through a wire attached to one of the old-fashioned hand crank phones.

When the crank is spun, a current goes out the end of a wire and shocks fish nearby. The fish float to the surface where they can be easily picked up. . . .

"Blame the Stars"

IF YOU DON'T like what you see when you look into a mirror, blame it on the stars. The stars — or at least particles from them — may have an influence on how you live, work, your ability and even your likes and dislikes as well as your looks.

At least that's the theory advanced in a hour-long color movie, shown on NBC television, which describes the detective work scientists are doing to help man understand his environment.

The movie, entitled "The Strange Case of the Cosmic Rays," showed what is known up to date of the "zillions and zillions of star particles that bounce back and forth" in outer space — some of them crashing onto the earth and the earth people.

It's the impact from the star particles — cosmic rays that may have the influence on man, according to the movie . . .

Why Russ Surge Ahead In Science

YOU GET what you pay for, and Russia pays her scientists well — reportedly three times what the United States does . . .

Americans should remember these homilies when they fret over being outdistanced by Russia in the race to launch space satellites, said the head of the Illinois Institute of Technology in a story appearing in the November 5 issue of the *Chicago Daily News.*

"Russia is practicing what Americans preach in these familiar sayings, and it's paying off in scientific accomplishment," declared President John T. Rettaliata. . . .

With Major Lenox R. Lohr, president of the Museum of Science and Industry, Rettaliata hailed the action of the Department of Defense in loosening the purse-strings on spending for research.

The two men commended Defense Secretary McElroy's prompt action in setting aside his predecessor's order freezing $170 millions that had been earmarked for military research.

"One immediate problem is better organization in Washington of all government work on missiles," added Lohr. . . .

Citizens must set the stage for scientific advance, not wait for the government to do it, urged William V. Kahler, president of the Illinois Bell Telephone Co.

"Our country, thank goodness, runs on incentives, not force," he said. "We won't get the scientists our country must have for future survival by forcing young people into this field, but we can attract them. Too little incentive is offered the talented person to go into basic research — and stay there. More industries should support this type of research. More money, and more honor, is due those scientists and teachers who explore the unknown."

dead-ends tailored for jacketed conductors

Preformed Dead-Ends grip firmly, yet jacketing material won't creep

There is only one way to efficiently dead-end self-supporting cable, C-rural wire and B-rural messenger: Apply Preformed Dead-Ends over the jacket.

Preformed Dead-Ends are precisely designed and fabricated to hold firmly, but low unit pressure prevents undue creepage or cold flow. In addition, for many applications they have a neoprene coating that cushions the grip yet relieves and distributes stresses.

Preformed Dead-Ends will hold the maximum service loads of the conductor or messenger without damaging the jacket. When the jacket is weatherproofing, as on B-rural messenger, you get full protection by not exposing the conductor to the elements at any point.

For more information about dead-ending weatherproofed and insulated conductor and messenger, write PREFORMED LINE PRODUCTS COMPANY, 5349 St. Clair Avenue, Cleveland 3, Ohio. Cable Address: Preformed-Cleveland . . . in 10 years the leading manufacturer of armor rods, dead-ends, Guy-Grip dead-ends, and other line accessories.

PLP

You can look up to **Preformed**

Made in accordance with or for use under U. S. Patent No. 2,761,273. Other patents issued and pending.

who said it couldn't be done?

We remove spots every day! Those spots you get before your eyes from watching rising costs nudge upward toward revenue.

Our Complete Directory Service Plan is now operating successfully in 4400 communities . . . has proved its effectiveness by giving extra profits to independent telephone companies all over America.

Want to give *your* Directory a new and *better* look? We'll be glad to show you how. Just call or write our nearest office.

GENERAL SYSTEM

GENERAL TELEPHONE DIRECTORY COMPANY

1800 Busse Highway • DES PLAINES, ILLINOIS • VAnderbilt 4-2164

Divisional Sales Offices

COLUMBIA, Mo. • 811 Cherry Street • GIbson 2-6907
DURHAM, N.C. • 108 E. Parrish Street • Tel: 5133
ERIE, Penna. • G. Daniel Baldwin Building • Tel: 2-4187
FORT WAYNE 2, Ind. • 229 E. Berry Street • Eastbrook 3477
LEXINGTON, Kentucky • 157 Walnut Street • Tel: 4-7626
LONG BEACH 15, Calif. • 1775 Ximeno Ave. • GEneva 3-7441
MADISON, Wisconsin • Tenney Building • ALpine 7-1667
SAN ANGELO, Texas • 110 South Taylor St. • Tel: 6738
SPOKANE, Wash. • 108 N. Washington St. • MAdison 4-4336
SPRINGFIELD, Ill. • Myers Bros. Building • Tel: 8-3425